SysKonnect SK-54C1

User Manual
Wireless LAN Cardbus Adapter

SysKonnect
The Server Connectivity Company

SysKonnect SK-54C1
Wireless LAN Cardbus Adapter

User Manual

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Conventions

The following conventions apply in this manual.

Warnings and Notes

Used to indicate a potentially hazardous situation which, if not avoided, could result in death or serious injury. Example: dangerous voltage.

Used to indicate a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. Example: electrostatic discharge.

Used for additional information and advice.

Font Styles applied

Italics: *Italics* is used for the following elements:

- In bodytext as an introduction of new technical terms
- In instructions for radio buttons and check boxes

Examples: The station is operated in *Repeater Mode*.
Select the *Sharing* radio button.
Select the *Enable Bidirectional Support* check box.

SMALL CAPS: SMALL CAPS is used for the following elements:

- Menu options
- Buttons
- Tabs
- Entries in a list box

Examples: In the main menu, select EXIT.
Click the CONNECT button.
Select the tab PORTS.
The top line in the printer list (HP LASERJET 4M) indicates that the HP laserjet printer 4M is installed on this PC.

Quotation Marks (“ ”): Quotation Marks are used for the following elements:

- Window/screen names
- Field names
- List box names

Examples: The “Create NDPS Manager Object” window is displayed.
Type a name in the field “NDPS Manager Name”.
The list “Network” is displayed, containing all installed network components.

`Courier`: `Courier` is used for the following elements:

- Terminal input to be entered by the user
- Terminal output issued by the system

Examples: Enter `sk98diag`.
If the test was successful, the message `passed` is issued.

Underline: Underline is used to identify hyperlinks.

Example: Visit our web site: http://www.syskonnect.com.

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Safety Precautions

To protect yourself from injuries and avoid damage of the SysKonnect SK-54C1 Wireless LAN Cardbus Adapter, always observe the following safety instructions.

Avoiding Injuries

Electrical current!
Electrical current from power, phone, and communications cables can be hazardous.
Never touch any electrical elements with bare hands.

To avoid potential shock hazards:

- Do not carry out any installation, maintenance, or (re)configuration work during a thunderstorm.
- Do not connect or disconnect any power cables during a thunderstorm.
- Unplug this device from its power source before cleaning. Use only a slightly dampened cloth for cleaning. Do not use liquid or aerosol cleaners.
- Do not use this product near water.
- This device should only be used with the power supply type specified on the marking label. If you are not sure of the type of your local power supply, consult your dealer or the local power company.
- Do not pinch, crimp or otherwise damage the power cord. For transportation, ensure that the cable is properly shielded and does not pose a tripping hazard.
- If using an extension cord, make sure the total ampere rating of the products using the cord does not exceed the extension cord's ampere rating.
- Do not attempt to service this device, as opening or removing the casing may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.
- Do not touch or move antenna while the unit is transmitting or receiving.
- Do not hold any component containing the radio such that the antenna is very close or touching any exposed parts of the body, especially the face or eyes, while transmitting.
- The SysKonnect SK-54C1 Wireless LAN Cardbus Adapter should be serviced by qualified service personnel under the following conditions:
  - The power cord is damaged or frayed.
  - Liquid has been spilled onto the product.
  - The product has been exposed to rain or water.
  - The product does not operate normally in accordance with the operating instructions.
  - The device has been dropped or the casing has been damaged.

Electrical installations must comply with the safety regulations of the country in which they are operated.

Do not operate a portable transmitter (such as a wireless network device) near unshielded blasting caps or in an explosive environment unless the device has been modified to be qualified for such use.

Avoiding Damage

Electrostatic discharge!
Electrostatic discharge may damage or destroy the SysKonnect SK-54C1 Wireless LAN Cardbus Adapter.

To avoid damaging the SysKonnect SK-54C1 Wireless LAN Cardbus Adapter observe the following:

- Never use force when working with the SysKonnect Cardbus Adapter.
- Do not place the SysKonnect Cardbus Adapter on an unstable surface. The device may fall causing serious damage to the device.
- Avoid unnecessary movement since this can increase electrostatic charge.
- Use in specific environments:
  - The use of wireless devices in hazardous locations is limited by the constraints posed by the safety directors of such environments.
  - The use of wireless devices in hospitals is restricted to the limits set forth by each hospital.

Regulations of the FCC and the Federal Aviation Administration (FAA) prohibit airborne operation of radio-frequency wireless devices because their signals could interfere with critical aircraft instruments.

FCC Safety Notices

The FCC in ET Docket 96-8 has adopted a safety standard for human exposure to RF electromagnetic energy emitted by FCC certified equipment. The SysKonnect SK-54C1 Wireless LAN Cardbus Adapter meets the Human Exposure limits found in OET Bulletin 65, 2001, and ANSI/IEEE C95.1, 1992. Proper operation of this radio according to the instructions found in this manual results in exposure substantially below the limits recommended by FCC.

This product has passed all necessary tests that classify the product as a mobile device that can be operated in close proximity to the human body.

The device is approved for mobile and laptop computer use with similar installation and operating configurations. The SysKonnect Cardbus Adapter is a wireless device with an integrated antenna. To comply with the FCC and ANSI C95.1 RF exposure limits when using such a wireless device inserted into a laptop computer, it is recommended that the antenna should not be positioned closer than 5 cm (2 inches) from the body or nearby persons. It is recommended that the user limit exposure time if the antenna is positioned closer than 5 cm (2 inches).

The device must not be co-located or operating in conjunction with any other antenna or radio transmitter. Installers and end users must follow the installation instructions provided in this manual.

1 Introduction

Overview

This manual explains how to install the following hardware and software on a Microsoft Windows based computer with a cardbus adapter slot:

- SysKonnect SK-54C1 Wireless LAN Cardbus Adapter
- SysKonnect SK-54C1 Wireless LAN Cardbus Adapter Driver for Windows XP or Windows 2000
- Marvell Wireless Client Card Configuration Utility
- Odyssey Client

System Requirements

The minimum system requirements for installing and using the adapter are as follows:

- Microsoft Windows XP or Windows 2000 operating system
- 400 MHz or higher CPU
- 128 MB of RAM
- 800 kB of free disk space for the installation of the driver and the Marvell Configuration Utility
- CD-ROM drive

Package Contents

The package includes the following items:

- SysKonnect Cardbus Adapter
- SysKonnect adapter software containing:
  - Marvell Wireless Client Card Configuration Utility
  - SysKonnect Adapter Driver for Windows XP
  - SysKonnect Adapter Driver for Windows 2000
  - Odyssey Client
- Documentation:
  - SysKonnect Cardbus Adapter User Manual
  - Release Notes (if applicable)

2 Driver Installation

This chapter explains how to install the SysKonnect Windows drivers on a Windows based (XP or 2000) PC computer.

The Windows XP or Windows 2000 adapter driver provides the interface between the SysKonnect Cardbus Adapter and the computer.

The following topics are covered:

- Installing the Windows XP Driver
- Installing the Windows 2000 Driver

There are two folders on the installation CD-ROM corresponding to the drivers for the two different Windows operating systems:
root\ ... \WinXP
root\ ... \Win2K
When prompted for the driver for your system, select the appropriate folder.

Installing the Windows XP Driver

To install the Windows XP driver, proceed as follows:

1. After you have installed the adapter in your computer, boot Windows XP.
   Windows detects the SysKonnect Cardbus Adapter during the boot operation automatically. If the computer does not find the new hardware, go to chapter 6 “Troubleshooting” on page 55.
   The window “Found New Hardware Wizard” is displayed.

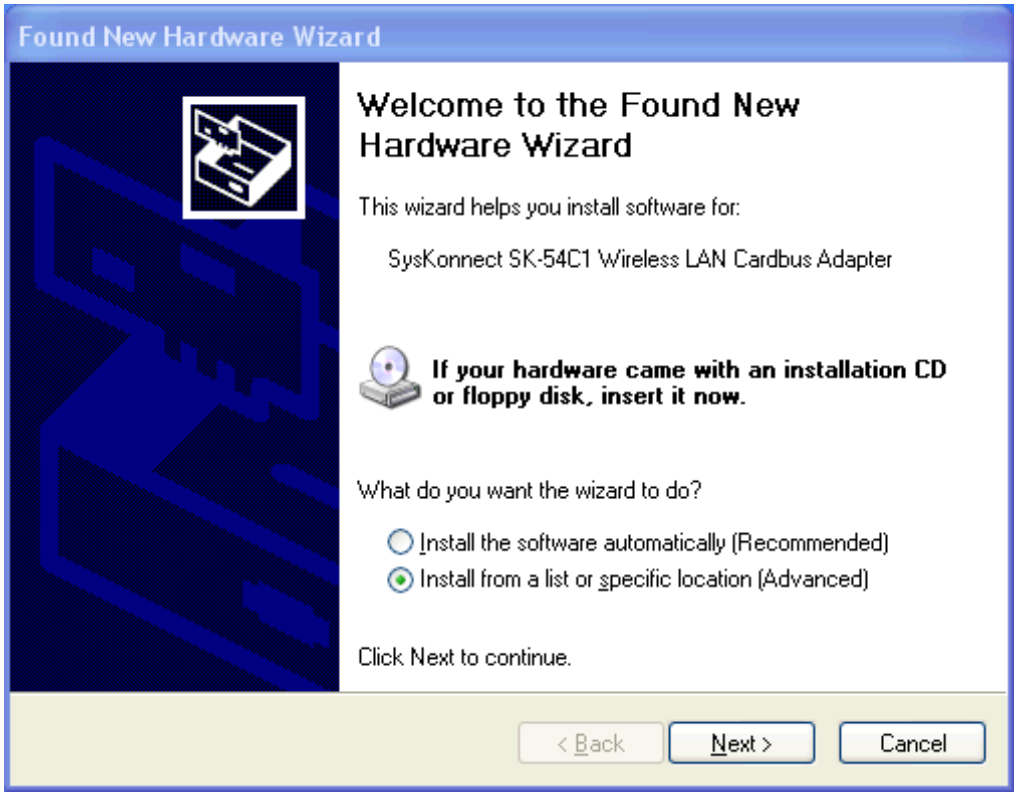
Found New Hardware Wizard
Welcome to the Found New Hardware Wizard
This wizard helps you install software for:
SysKonnect SK-54C1 Wireless LAN Cardbus Adapter
If your hardware came with an installation CD or floppy disk, insert it now.
What do you want the wizard to do?
Install the software automatically (Recommended)
Install from a list or specific location (Advanced)
Click Next to continue.
< Back
Next >
Cancel

Figure 1. Windows XP – Found New Hardware Wizard

2. Select the radio button *Install from a list or specific location (Advanced)*.
3. Click NEXT.

   In the same window, the menu “Please choose your search and installation options” is displayed.

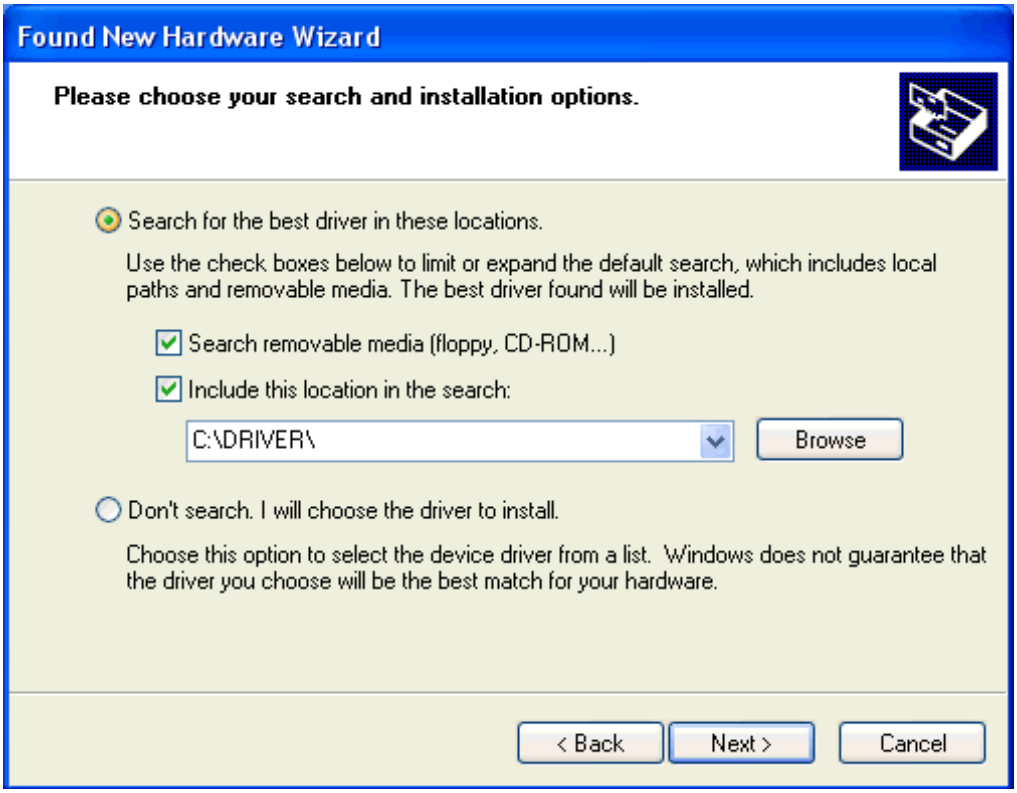
Found New Hardware Wizard
Please choose your search and installation options.
Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)
Include this location in the search:
C:\DRIVER\
Browse
Don't search. I will choose the driver to install.
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< Back
Next >
Cancel

Figure 2. Windows XP – Search and Installation Options

4. Select the radio button *Search for the best driver in these locations*.
5. Select the check box *Include this location in the search.*
6. Enter the path to the directory that contains the driver
   or
   click the BROWSE button to locate the directory.
7. Click NEXT.

   In case the adapter has not passed Windows Logo testing to verify its compatibility with Windows XP, the window “Hardware Installation” is displayed.

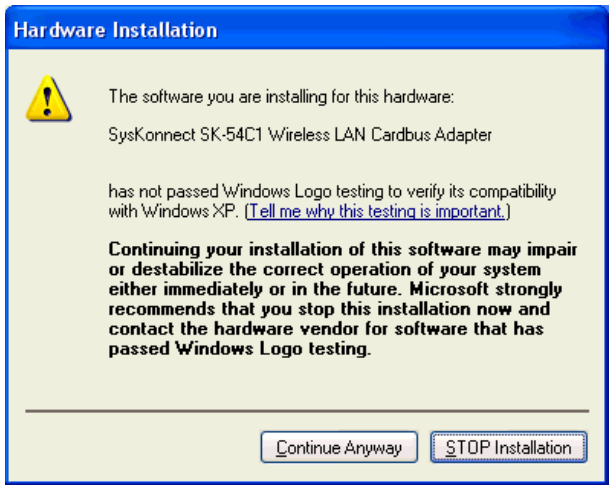
Hardware Installation
The software you are installing for this hardware:
SysKonnect SK-54C1 Wireless LAN Cardbus Adapter
has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)
Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
Continue Anyway
STOP Installation

Figure 3. Windows XP – Hardware Installation

8. To continue the installation, click CONTINUE ANYWAY.
   The menu “Please wait while the wizard installs the software” is displayed.
9. Click NEXT.
   The menu “Completing the Found New Hardware Wizard” is displayed.
10. Click FINISH to complete the installation.

Service Pack 2

Windows XP Service Pack 2 provides an updated wireless networking infrastructure to enable easier setup and management of wireless connections. The new *Wireless LAN Client* will work with a broad range of wireless hot spots, allowing customers to connect seamlessly without having to install or update a third-party client. A new user interface also allows customers to more easily disconnect from hot spots.

Installing the Windows 2000 Driver

To install the Windows 2000 driver, proceed as follows:

1. After you have installed the adapter in your computer, boot Windows 2000.
   Windows detects the SysKonnect Cardbus Adapter during the boot operation automatically. If the computer does not find the new hardware, go to chapter 6 “Troubleshooting” on page 55.
   The window “Found New Hardware Wizard” is displayed.
2. Click NEXT.
   In the same window, the menu “Install Hardware Device Drivers” is displayed.

Upgrade Device Driver Wizard
Install Hardware Device Drivers
A device driver is a software program that enables a hardware device to work with an operating system.
This wizard upgrades drivers for the following hardware device:
Ethernet Controller
Upgrading to a newer version of a device driver may add functionality to or improve the performance of this device.
What do you want the wizard to do?
Search for a suitable driver for my device (recommended)
Display a list of the known drivers for this device so that I can choose a specific driver
< Back
Next >
Cancel

Figure 4. Windows 2000 – Install Hardware Device Drivers

3. Select *Search for a suitable driver for my device (recommended)*.
4. Click NEXT.
   The menu “Locate Driver Files” is displayed.

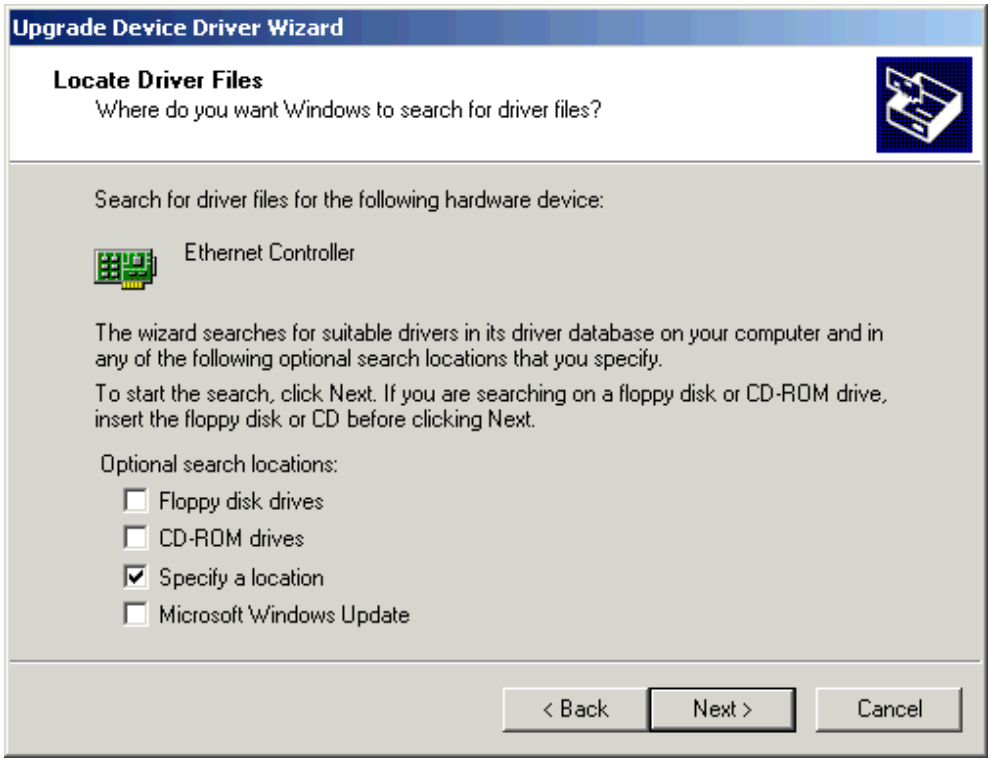
Upgrade Device Driver Wizard
Locate Driver Files
Where do you want Windows to search for driver files?
Search for driver files for the following hardware device:
Ethernet Controller
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.
Optional search locations:
Floppy disk drives
CD-ROM drives
Specify a location
Microsoft Windows Update
< Back
Next >
Cancel

Figure 5. Windows 2000 – Locate Driver Files

5. Select *Specify a location*.
6. Click NEXT.
   The window “Upgrade Device Driver Wizard” is displayed.

Figure 6. Windows 2000 – Search for Driver Files

7. Enter the path to the directory that contains the driver,
   or
   click the BROWSE button to locate the directory.
8. Click OK.
   The menu “Driver Files Search Results” is displayed.

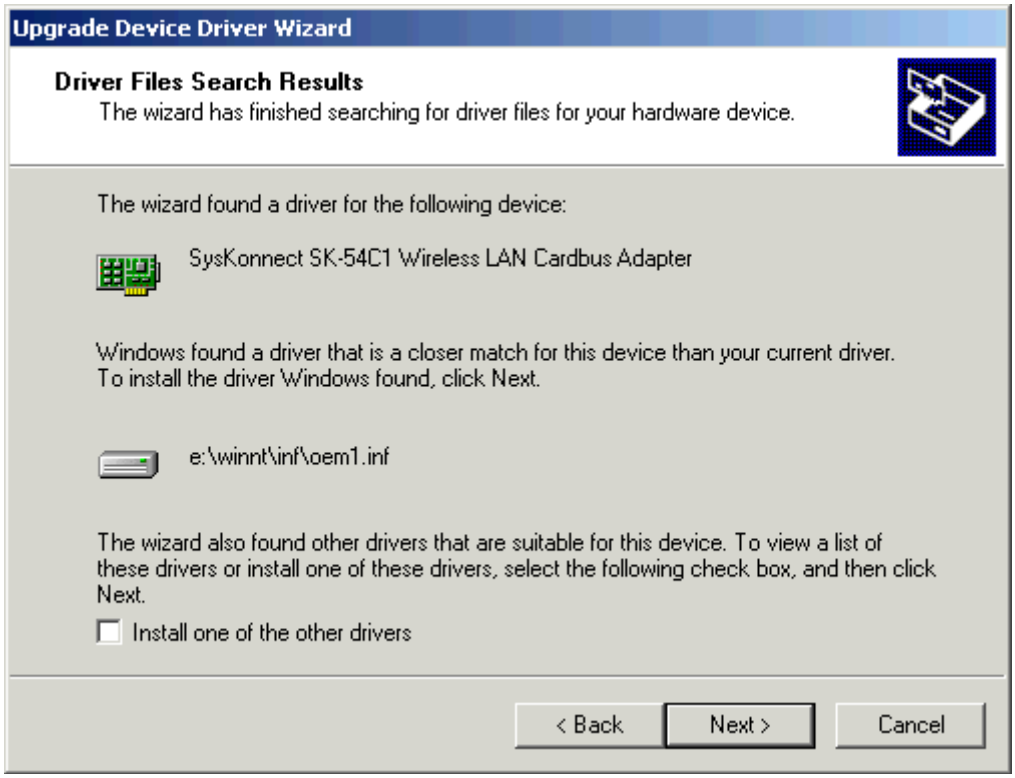
Upgrade Device Driver Wizard
Driver Files Search Results
The wizard has finished searching for driver files for your hardware device.
The wizard found a driver for the following device:
SysKonnect SK-54C1 Wireless LAN Cardbus Adapter
Windows found a driver that is a closer match for this device than your current driver.
To install the driver Windows found, click Next.
e:\winnt\inf\oem1.inf
The wizard also found other drivers that are suitable for this device. To view a list of these drivers or install one of these drivers, select the following check box, and then click Next.
Install one of the other drivers
< Back
Next >
Cancel

Figure 7. Windows 2000 – Driver Files Search Results

9. Click NEXT.
   In case the driver does not have a Microsoft Digital Signature yet, the window “Digital Signature Not Found” is displayed.

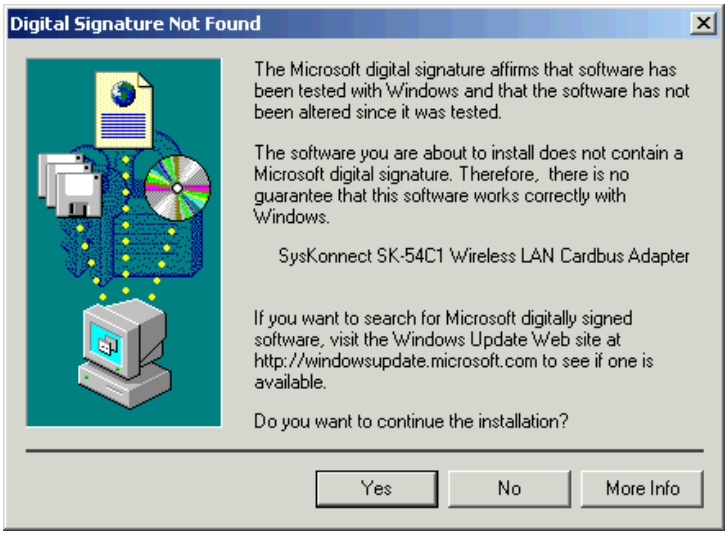
Digital Signature Not Found
The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.
The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.
SysKonnect SK-54C1 Wireless LAN Cardbus Adapter
If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.
Do you want to continue the installation?
Yes
No
More Info

Figure 8. Windows 2000 – Digital Signature Not Found

10. To continue the installation, click YES.
    The menu “Hardware Install” is displayed indicating that installation is in progress. This process may take a few minutes.
    The window “Completing the Found New Hardware Wizard” is displayed.
11. Click FINISH to complete the installation.

3 Marvell Configuration Utility

The Marvell Wireless Client Card Configuration Utility is a Microsoft Windows application that allows configuration and management of the SysKonnect Cardbus Adapter. The Marvell Configuration Utility sets up profiles and performs other wireless network management tasks.

This chapter contains detailed instructions on how to install the utility and shows how to use the Configuration Utility to configure and use the adapter.

Installing the Marvell Configuration Utility

To install the Marvell Configuration Utility, proceed as follows:

1. Turn on the computer.
2. Navigate to the drive where the Marvell Configuration Utility files are located.
3. Change to the directory \Utils.
4. Double-click SETUP.EXE.
   Windows starts the setup wizard and displays the following window:

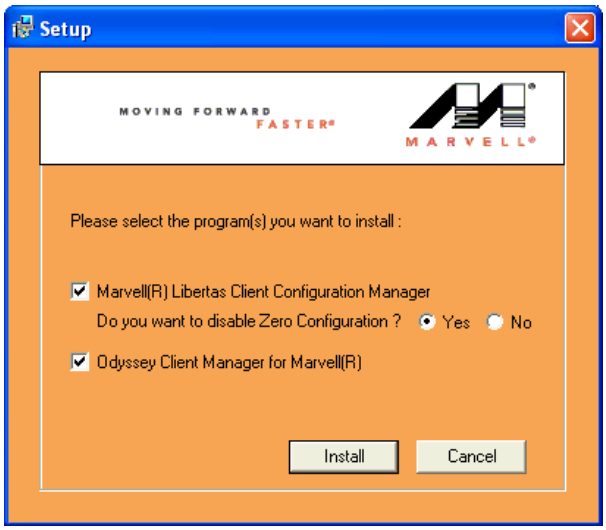

Figure 9. Setup Screen for Marvell Client Configuration Manager and Odyssey Client

1. To install both, the Marvell Configuration Utility and the Odyssey Client Manager, activate both checkboxes in the Setup menu. (More information on the Odyssey Client Manager is given in chapter 4 “Odyssey Client” on page 49.)
   If only the Marvell Configuration Utility shall be installed, activate only the first checkbox.
2. For security reasons, activate YES for the option “Do you want to disable Zero Configuration?” (only valid for Windows XP systems).
3. Click INSTALL.
   The window “InstallShield Wizard” is displayed.

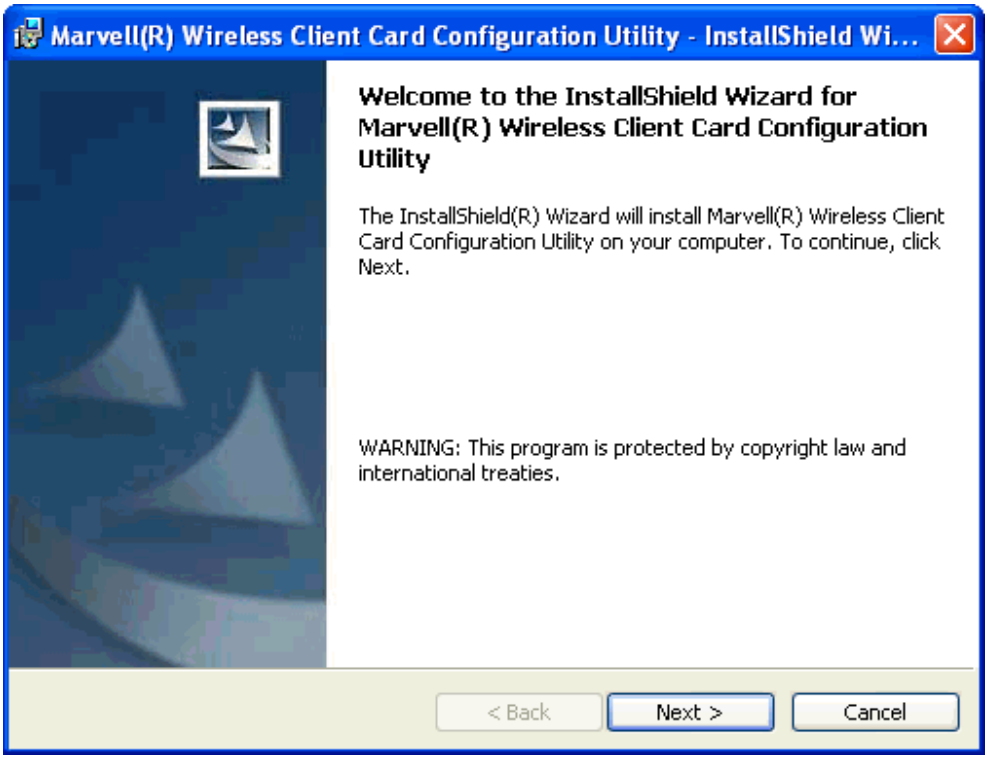
Marvell(R) Wireless Client Card Configuration Utility - InstallShield Wi...
Welcome to the InstallShield Wizard for Marvell(R) Wireless Client Card Configuration Utility
The InstallShield(R) Wizard will install Marvell(R) Wireless Client Card Configuration Utility on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
< Back
Next >
Cancel

Figure 10. Configuration Utility – InstallShield Wizard

4. Click NEXT.
   In the same window, the menu “License Agreement” is displayed.

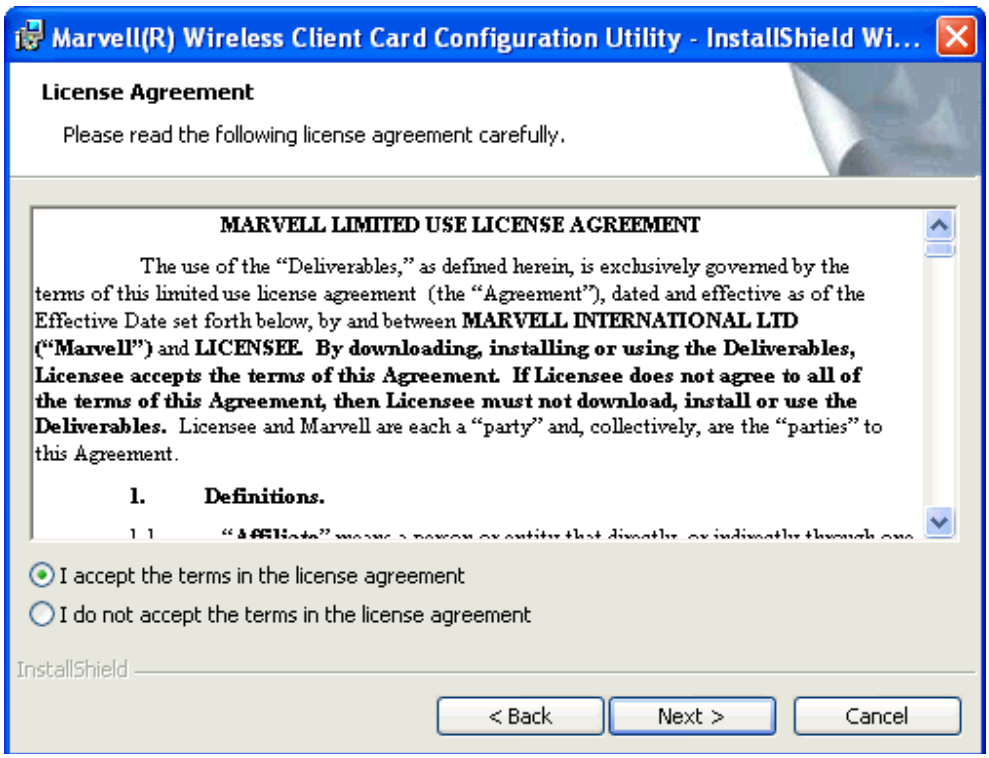
Marvell(R) Wireless Client Card Configuration Utility - InstallShield Wi...
License Agreement
Please read the following license agreement carefully.
MARVELL LIMITED USE LICENSE AGREEMENT
The use of the “Deliverables,” as defined herein, is exclusively governed by the terms of this limited use license agreement (the “Agreement”), dated and effective as of the Effective Date set forth below, by and between MARVELL INTERNATIONAL LTD (“Marvell”) and LICENSEE. By downloading, installing or using the Deliverables, Licensee accepts the terms of this Agreement. If Licensee does not agree to all of the terms of this Agreement, then Licensee must not download, install or use the Deliverables. Licensee and Marvell are each a “party” and, collectively, are the “parties” to this Agreement.
1. Definitions.
I accept the terms in the license agreement
I do not accept the terms in the license agreement
InstallShield
< Back
Next >
Cancel

Figure 11. License Agreement

5. Select *I accept the terms in the license agreement*.

6. Click NEXT.
   The menu “Customer Information” is displayed.

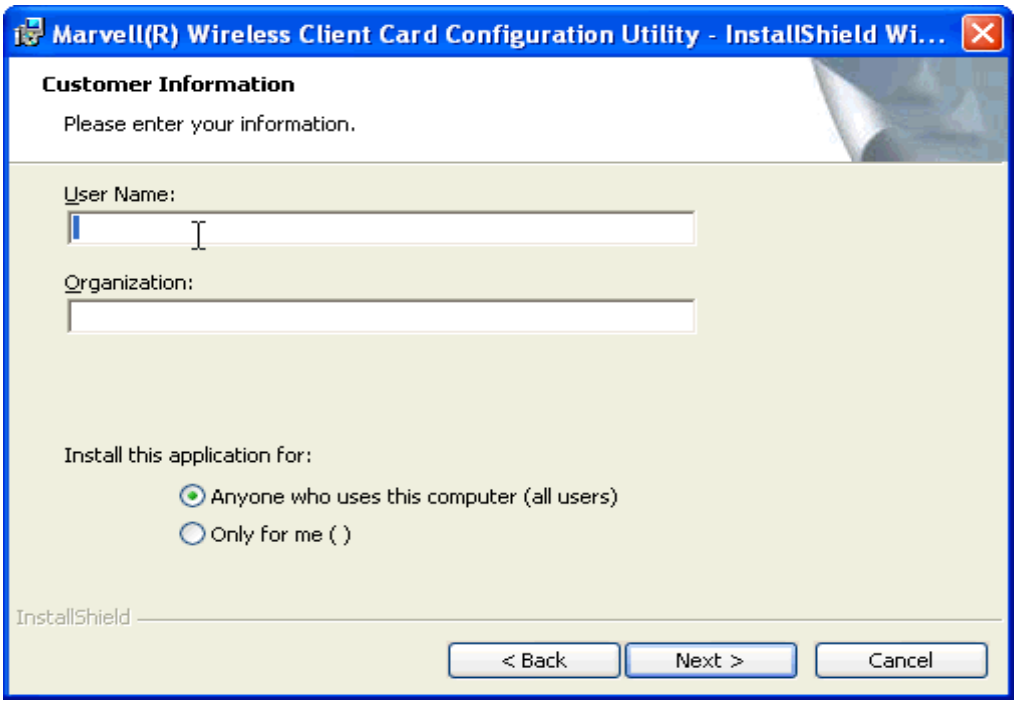

Figure 12. Customer Information

7. Enter a name in the field “User Name”.
8. Enter an organization in the field “Organization”.
9. Click NEXT.
   The menu “Destination Folder” is displayed.
10. Click NEXT to install the configuration utility in the default folder
    or
    click CHANGE to enter a different path.
    The menu “Ready to Install the Program” is displayed.
11. Click INSTALL to start the installation.
    The menu “Installing Utility” is displayed.
    The Marvell Configuration Utility is installed. When the Setup Wizard is finished, the menu “Installation Complete” is displayed.
12. Click FINISH to complete the installation of the Marvell Configuration Utility.
    If in the Setup menu both checkboxes (for the Marvell Configuration Utility and the Odyssey Client) have been activated, the installation program for the Odyssey Client launches automatically. (For further details, see chapter 4 “Odyssey Client” on page 49.)

Uninstalling the Marvell Configuration Utility

To uninstall the Marvell Configuration Utility, proceed as follows:

1. Click START > SETTING > CONTROL PANEL.
   The window “Control Panel” is displayed.
2. Double-click ADD/REMOVE PROGRAMS.
   The window “Add/Remove Programs” is displayed.

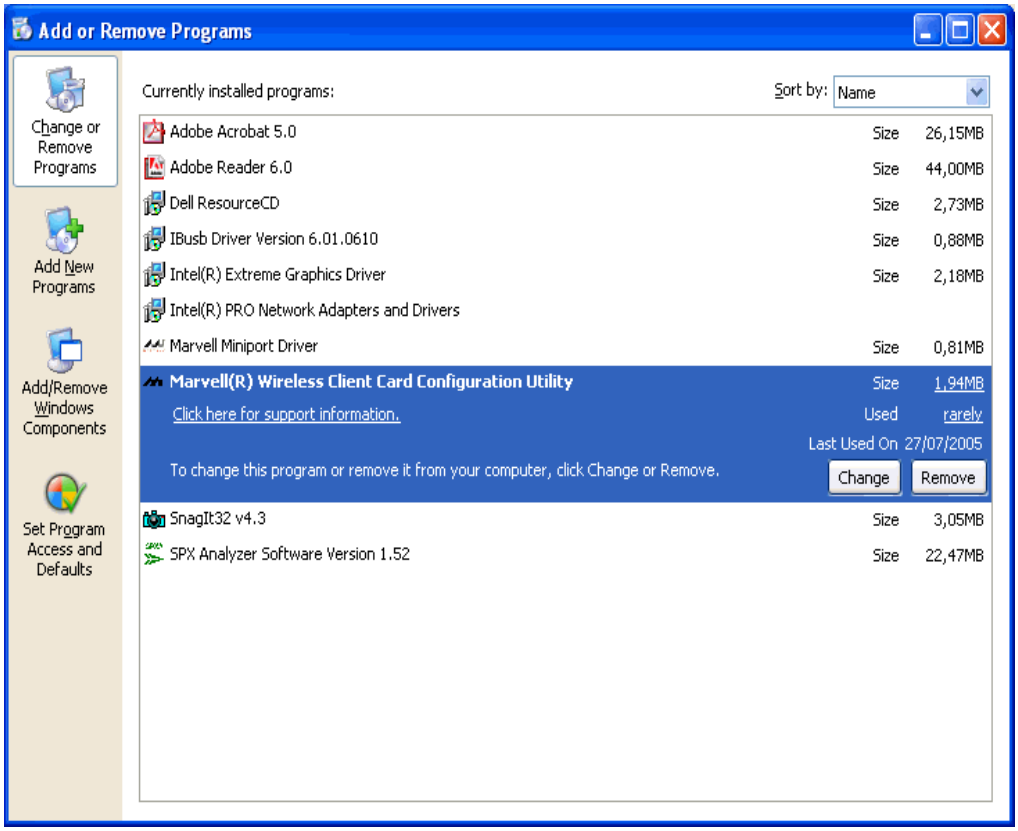
Add or Remove Programs
Change or Remove Programs
Add New Programs
Add/Remove Windows Components
Set Program Access and Defaults
Currently installed programs:
Sort by: Name
Adobe Acrobat 5.0 Size 26,15MB
Adobe Reader 6.0 Size 44,00MB
Dell ResourceCD Size 2,73MB
IBusb Driver Version 6.01.0610 Size 0,88MB
Intel(R) Extreme Graphics Driver Size 2,18MB
Intel(R) PRO Network Adapters and Drivers
Marvell Miniport Driver Size 0,81MB
Marvell(R) Wireless Client Card Configuration Utility Size 1,94MB
Click here for support information. Used rarely
Last Used On 27/07/2005
To change this program or remove it from your computer, click Change or Remove.
Change
Remove
SnagIt32 v4.3 Size 3,05MB
SPX Analyzer Software Version 1.52 Size 22,47MB

Figure 13. Add/Remove Programs

3. Select the MARVELL(R) WIRELESS CLIENT CARD CONFIGURATION UTILITY entry from the list of currently installed programs.
4. Click REMOVE to uninstall the program.

Configuring the Marvell Configuration Utility

This section describes the functions of the Marvell Wireless Client Card Configuration Utility for the SysKonnect SK-54C1 Wireless LAN Cardbus Adapter.

Windows XP Users

For Windows XP, use either the Windows XP Zero Configuration Utility or the Marvell Configuration Utility to configure the SysKonnect Cardbus Adapter.

To use the Marvell Configuration Utility, the Zero Configuration Utility must be deactivated as follows:

1. Click the WIRELESS icon on the desktop.
2. Click PROPERTIES.

The window “Wireless Network Connection Properties” is displayed.

3. Click the tab WIRELESS NETWORKS.
4. Deactivate the checkbox *Use Windows to configure my wireless settings*.

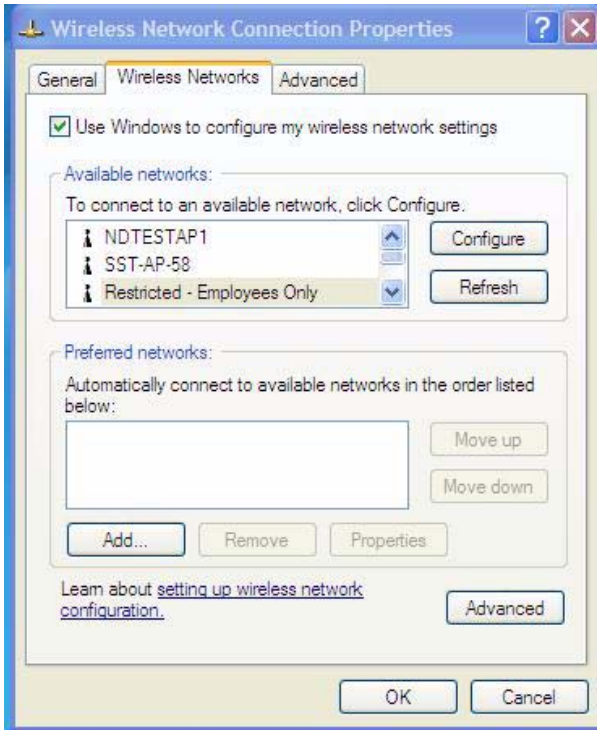

Figure 14. Zero Configuration Utility

When the Marvell Configuration Utility is opened, the Windows XP Zero Configuration Utility will be closed automatically by the Marvell Configuration Utility.

Once the user exits the Marvell Configuration Utility, the Windows XP Zero Configuration Utility is restored to manage the wireless configuration.

Running the Marvell Configuration Utility

Once installed, the Marvell Configuration Utility is accessed as follows:

1. Click the START menu.
2. Select PROGRAMS > MARVELL LIBERTAS(TM) 802.11G CLIENT > MARVELL LIBERTAS CLIENT CONFIGURATION MANAGER.

   or

   from the desktop, double-click the MARVELL LIBERTAS CLIENT CONFIGURATION MANAGER icon.

Figure 15. Marvell Libertas Client Configuration Manager Icon

Tray Status Icons

Different icons in the system tray indicate the status of the wireless connection:

Figure 16. Tray Status Icons

Configuration Utility Window

The “Configuration Utility” window displays the following tabs:

- NETWORK STATUS – displays the status of the network to which the user is connected. The Marvell Configuration Utility opens on this page. See section “Network Status Tab” on page 27 for details.
- PROFILE MANAGER – displays the current profiles and allows the user to set attributes for network type, security options, and protocols, as well as create/modify/delete profiles. See section “Profile Manager Tab” on page 31 for details.
- SITE SURVEY – shows a list of all of the stations within range of the adapter. See section “Site Survey Tab” on page 39 for details.
- STATISTICS – displays the statistics of the current session. See section “Statistics Tab” on page 42 for details.
- ADVANCED – allows you to set protocol parameters. See section “Advanced Tab” on page 44 for details.
- ADMIN – allows you to import and export profiles. See section “Admin Tab” on page 46 for details.
- ABOUT – displays the version number for the Marvell Configuration Utility. See section “About Tab” on page 47 for details.

The following sections explain how to use the Marvell Configuration Utility.

Should the Marvell Configuration Utility fail to detect the adapter, see chapter 6 “Trouble-shooting” on page 55 for possible solutions.

Network Status Tab

The NETWORK STATUS tab displays the status of the network. When the Marvell Configuration Utility opens, it displays the NETWORK STATUS tab.

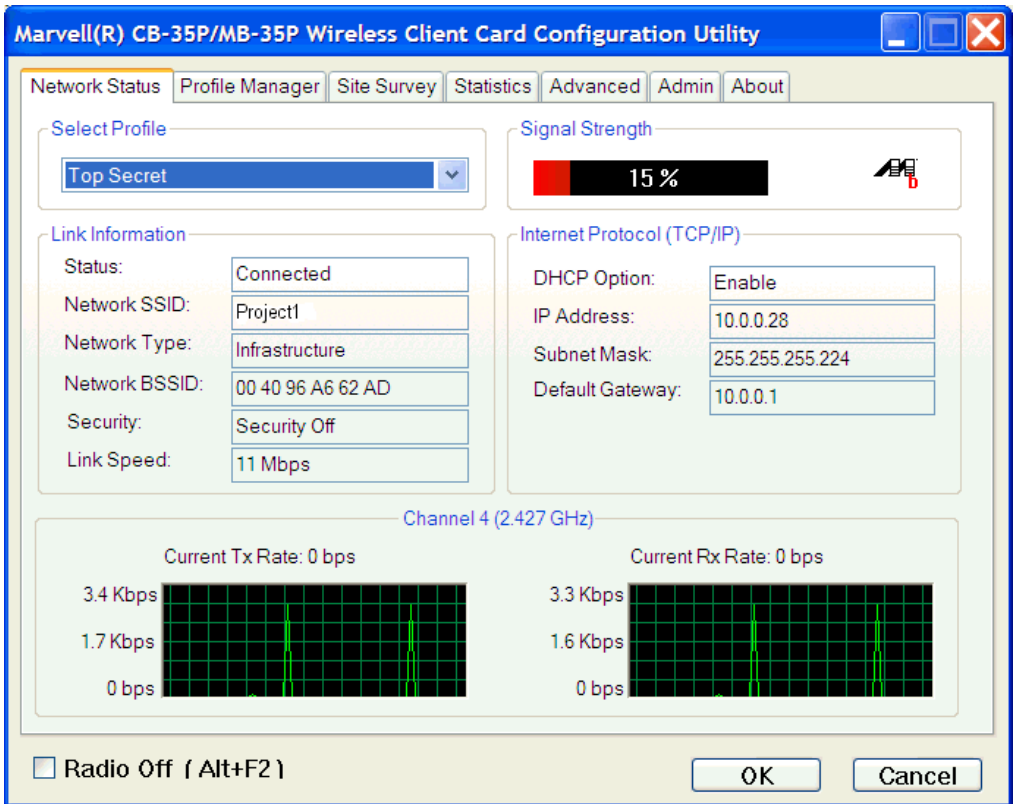

Figure 17. Network Status Tab

Select Profile

The section “Select Profile” displays the name of the profile in use. Additional information about the profile is provided in the PROFILE MANAGER tab.

Select one of the profiles previously defined by clicking the down arrow and highlighting a profile from the pulldown list.

Figure 18. Select Profile Section

Profiles are created, modified, and deleted through the Profile Manager.

Link Information

The “Link Information” section contains the current information about the wireless connection.

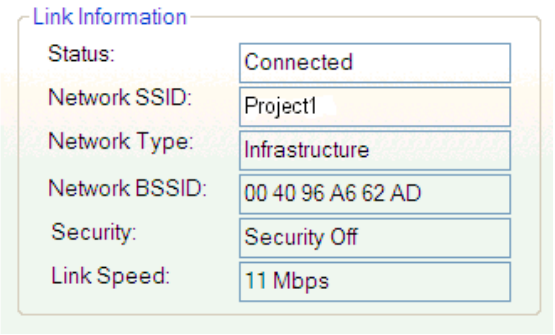

Figure 19. Link Information Section

- “Status” – the status of the wireless network connection:
  - `Card Unplugged` – adapter plugged in, but not recognized.
    See chapter 6 “Troubleshooting” on page 55 for possible solutions.
  - `Connected` – adapter plugged in and connected to a wireless network.
  - `Not connected` – adapter plugged in, but cannot find a wireless network.
    See chapter 6 “Troubleshooting” on page 55 for possible solutions.
  - `No Radio` – adapter plugged in, but the radio is turned off.
    To turn the radio on, deactivate the *Radio Off* checkbox at the bottom of the tab.
- “Network SSID” – network SSID label (i.e., network name). The network name is a text string of up to 32 characters.
- “Network Type” – type of environment to which you are connected.
  The choices are:
  - `Infrastructure` – In this mode, wireless clients send and receive information through access points. When a wireless client communicates with another, it transmits to the access point. The access point receives the information and rebroadcasts it. Other devices then receive the information.
    Acess points are strategically located within an area to provide optimal coverage for wireless clients. A large WLAN uses multiple access points to provide coverage over a wide area. Access points can connect to a LAN through a wired Ethernet connection. Access points send and receive information from the LAN through the wired connection.
  - `Ad Hoc` – In this mode, wireless clients send and receive information to other wireless clients without using an access point. This type of WLAN only contains wireless clients.
    Use Ad-hoc mode to network computers at home or in small offices, or to set up a temporary wireless network for a meeting.
- “Network BSSID” – Network Basic Service Set Identifier. The BSSID is a 48-bit identity used to identify a particular BSS within an area. In Infrastructure BSS networks, the BSSID is the MAC address of the access point.
  In independent BSS or Ad-hoc networks, the BSSID is generated randomly.
- “Security” – reports the type and level of security set. The security level is set through the “Profile Setting” of the PROFILE MANAGER tab. Configure WEP settings also through the SITE SURVEY tab when connecting to a network.
- “Link Speed” – connection speed (i.e. 54 Mbit/s, 48 Mbit/s, etc.)

Signal Strength / Wireless Mode Indicator

The color-coded “Signal Strength” bar displays the signal strength of the last packet received by the adapter:

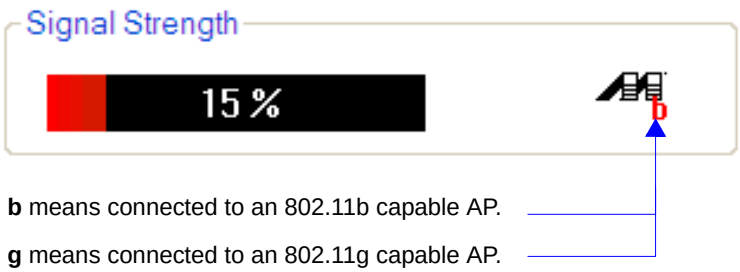

Figure 20. Signal Strength Section

Signal strength is reported as a percentage. A signal in the red area indicates a bad connection. A signal in the green area indicates a good connection.

The wireless mode indicator shows the data rates the SysKonnect Cardbus Adapter operates. There are two modes: 802.11b and 802.11g (backward compatible to 802.11b).

Internet Protocol (TCP/IP)

The internet protocol specifies the format of packets, also called datagrams, and the addressing scheme. Most networks combine IP with a higher-level protocol called TCP, which establishes a virtual connection between a destination and a source.

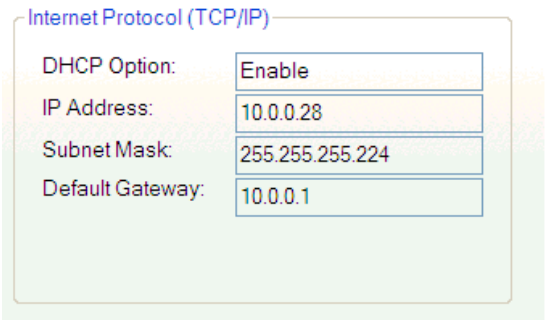

Figure 21. Internet Protocol Section

The parameters of the Internet protocol are:

- “DHCP Option” – Dynamic Host Configuration Protocol.
  The choices are `Enable` or `Disable`.
- “IP Address” – an identifier for a computer or device on a TCP/IP network. The format of an IP address is a 32-bit numeric address written as four numbers separated by periods. Each number can be 0 to 255.
- “Subnet Mask” – a mask used to determine the subnet an IP address belongs to.
- “Default Gateway” – the default gateway is the gateway in a network that a computer will use to acess another network if a no other gateway is specified for use. In enterprises, the gateway is the computer that routes the traffic from a workstation to the outside.

Actual Throughput Performance

This section of the NETWORK STATUS tab displays the Current Transmit (Tx) Rate and the Current Receive (Rx) Rate of the channel being monitored.

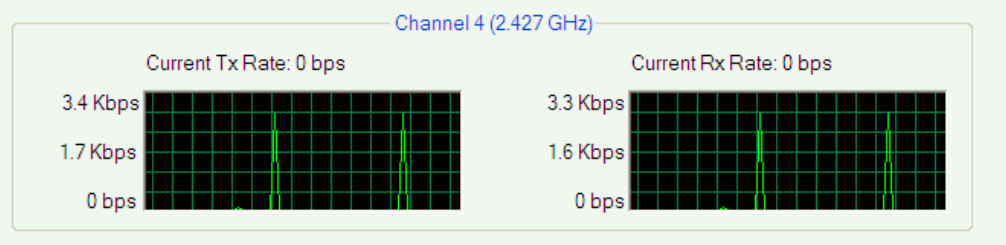

Figure 22. Throughput Section

These are actual throughput diagrams (without the WLAN protocol overhead).

Radio On/Off Box

Clicking the *Radio Off* checkbox turns the radio off. Deactivating the checkbox turns the radio on.

Figure 23. Radio OFF Checkbox

Another way to turn the radio on or off is to right-click the CONFIGURATION UTILITY icon in the system tray and click TURN RADIO OFF to turn the radio off. When the radio is off, click TURN RADIO ON to turn the radio back on.

You can also use the system hot key Alt+F2 to turn the radio on/off.

Figure 24. System Tray – Radio On/Off

When the radio is off, there is no radio activity, and the following tabs are disabled:

- SITE SURVEY
- STATISTICS
- ADVANCED

Profile Manager Tab

Clicking the PROFILE MANAGER tab displays the “Profile Manager” window. The Profile Manager displays the profiles available and allows you to create, modify, and delete profiles.

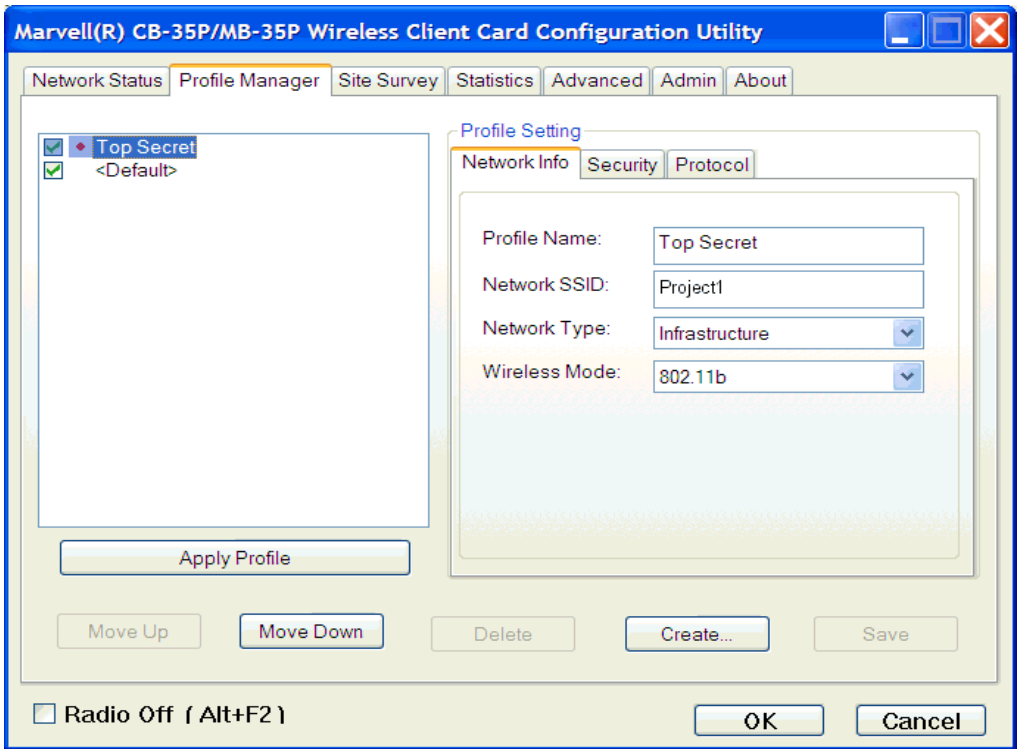

Figure 25. Profile Manager Tab

Profile List Window

The window on the left side of this tab lists all available profiles. Highlighting a profile selects it. If the *Default* checkbox is activated, that profile is used in auto-configuration mode when the link is lost. If it is deactivated, that profile is excluded in auto-configuration.

The controls associated with this window are:

- APPLY PROFILE – applies the profile selected. Apply the profile by double-clicking the desired profile.
- MOVE UP / MOVE DOWN – move the list up and down in the window. All profiles with the “Network Type” set to INFRASTRUCTURE are displayed before the profiles with the “Network Type” set to AD HOC.
- DELETE – deletes a profile.
- CREATE – creates a profile.
- SAVE – saves changes made to a selected profile.

Profile Setting

The profile settings are used to display information about the profile selected in the Profile list window. The information is divided into three tabs: NETWORK INFO, SECURITY, and PROTOCOL.

Network Info Tab

The Profile Manager initially displays the NETWORK INFO tab.

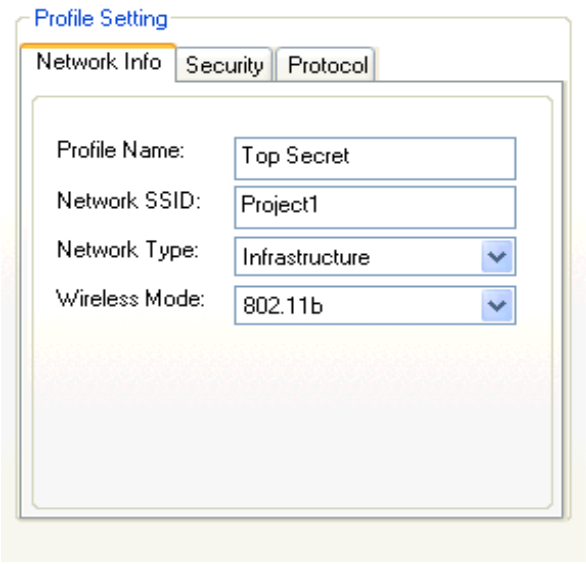

Figure 26. Network Info Tab

The NETWORK INFO tab contains the following fields:

- "Profile Name" – the profile selected.
- "Network SSID" – the network SSID label.
- "Network Type" – the type of environment to which you are connected. The choices are INFRASTRUCTURE mode or AD HOC mode.
- "Wireless Mode" – the wireless mode being used, either 802.11b (11 Mbit/s) or 802.11g (54 Mbit/s).

Security Tab

This section describes the SECURITY tab configuration.

Security Standards

Implementing a security infrastructure to monitor physical access to WLAN networks is more difficult than monitoring access on wired networks. Unlike wired networks where a physical connection is required, anyone within range of a wireless access point can send and receive frames, as well as listen for frames being sent.

IEEE 802.11 defines a set of standards and protocols for use in minimizing the security risks on wireless networks.

Two of the security standards are as follows:

- 802.1x – 802.1x authentication provides authenticated access to 802.11 wireless networks and to wired Ethernet networks. 802.1x minimizes wireless network security risks by providing user and computer identification, centralized authentication, and encryption services based on the WEP algorithm. 802.1x supports the Extensible Authentication Protocol (EAP). EAP allows the use of different authentication methods, such as smart cards and certificates.
- Wi-Fi Protected Access (WPA) – WPA is an implementation based on a subset of the 802.11i standard. WPA provides enhanced security for wireless networks when used with the TKIP and the Message Integrity Check (MIC) algorithms.

Authentication Modes

The Marvell Configuration Utility currently supports the following Authentication modes:

- WPA-PSK
- 802.1x EAP/TLS
- 802.1x PEAP

Clicking the SECURITY tab displays the security options.

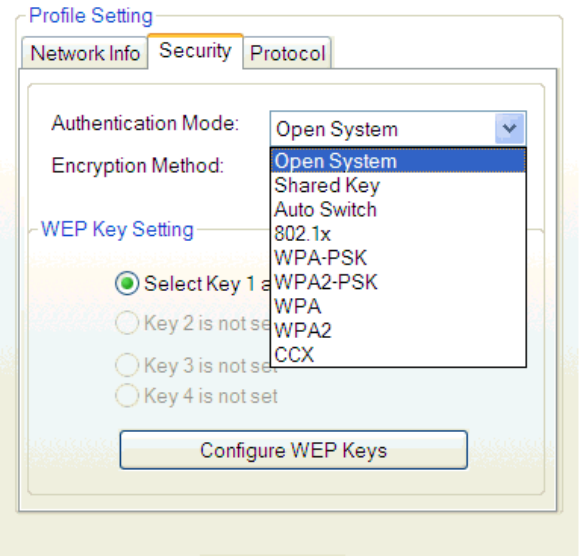

Figure 27. Security Tab – Authentication Mode

The SECURITY tab contains the following fields:

- "Authentication Mode" – options are OPEN SYSTEM, SHARED KEY, Auto Switch, WPA 802.1X (EAP/TLS and PEAP), WPA-PSK, and WPA. To connect to an access point through the radius server, the user can select either WPA 802.1X EAP/TLS or WPA 802.1X PEAP as the Authentication mode.

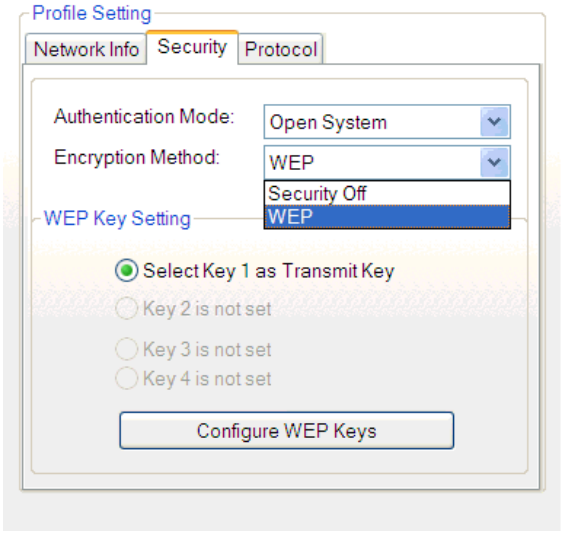

Figure 28. Security Tab – WEP Settings

- "Encryption Method" – options are TKIP, WEP, or SECURITY OFF, depending on the Authentication mode.
- "WEP Key Setting" – if WEP encryption method is selected, the WEP keys can be configured (see figure 28 "Security Tab – WEP Settings").

Configure WEP Keys

Clicking the CONFIGURE WEP KEYS button displays the window "Configure WEP Key".

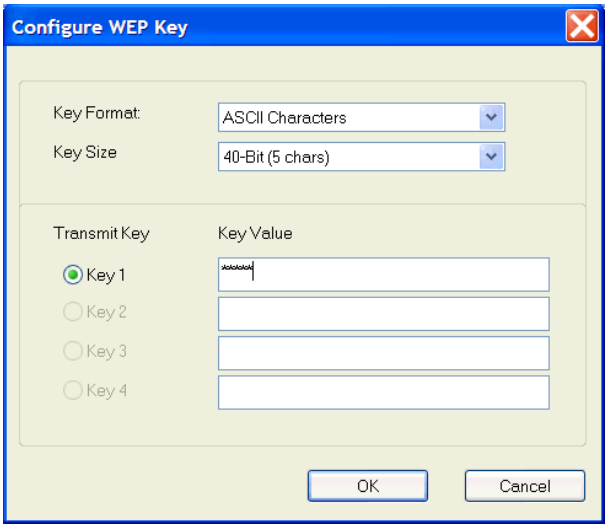

Figure 29. Configure WEP Key

- "Key Format" – either ASCII CHARACTERS or HEXADECIMAL DIGITS.
- "Key Size" – 40-BIT or 104-BIT:
  - 40-BIT, 5 character ASCII key size (40-bit, 10 character hexadecimal)
  - 104-BIT, 13 character ASCII key size (104-bit, 26 character hexadecimal)
- "Transmit Keys" – there are four transmit keys. The key value is displayed in ASCII or hexadecimal, depending on the format selected. Likewise, the key size shown depends on the key size selected.

WPA-PSK Support in Infrastructure Mode

In Infrastructure mode, if WPA-PSK is selected as the Authentication mode, TKIP is automatically selected as the encryption method.

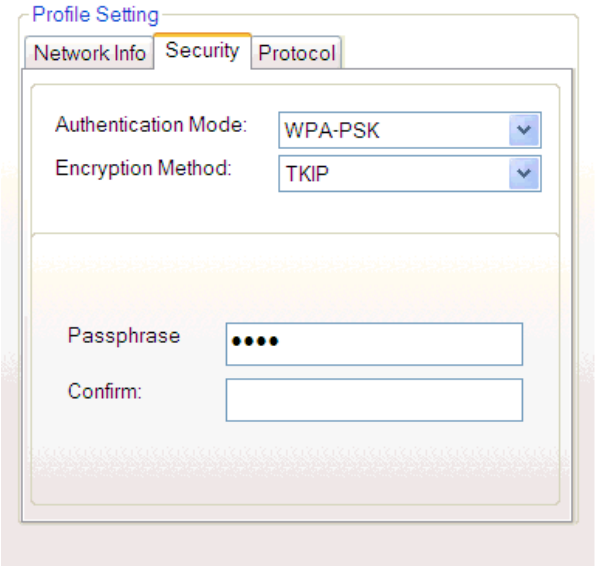

Figure 30. Security Tab – TKIP Encryption

1. Enter the network passphrase in the “Passphrase” field.
2. For security reasons, re-enter the passphrase in the “Confirm” field.

WPA-PSK is not supported in Ad-hoc mode.

WPA (802.1x EAP/TLS) Support in Infrastructure Mode

In Infrastructure mode, the user can use two different authentication modes to connect to an access point through the radius server: WPA 802.1x EAP/TLS or WPA 802.1x PEAP.

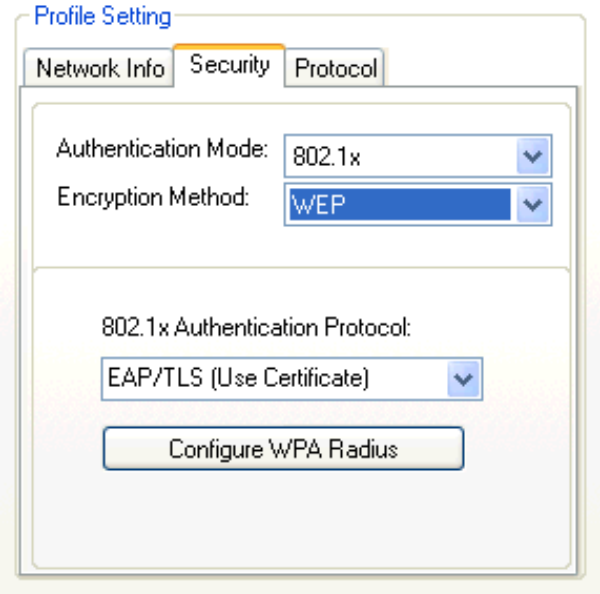

Figure 31. Security Tab – WPA (802.1x EAP/TLS)

To use WPA 802.1x EAP/TLS, proceed as follows:

1. In the field “Authentication Mode”, select 802.1X.
2. In the field “Encryption Method”, select TKIP or WEP.
3. From the pulldown menu under “802.1x Authentication Protocol” select EAP/TLS (USE CERTIFICATE).
4. Click the CONFIGURE WPA RADIUS button to configure the security settings for WPA EAP/TLS.
   The window “WPA EAP/TLS Radius Configuration” is displayed.

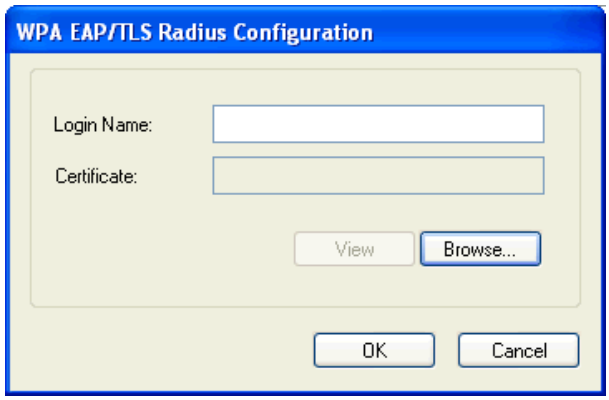

Figure 32. WPA Radius Configuration

5. Click the BROWSE button.
   The window “Select Certificate” is displayed.

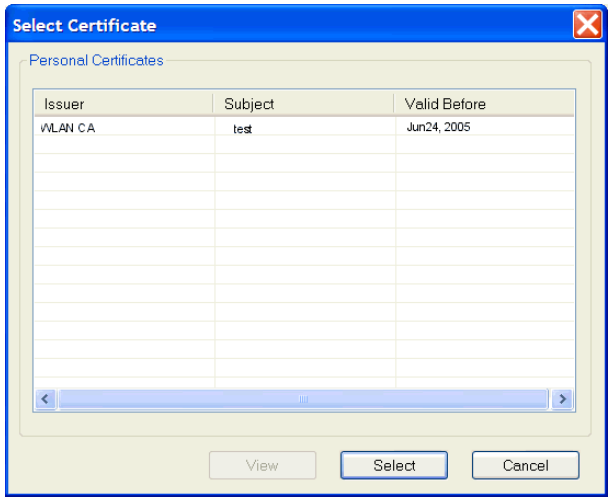

Figure 33. Select Certificate

6. Select the desired certificate.
7. Click SELECT.
   The window “WPA Radius Configuration” is displayed again and the name of the selected certificate appears in the field “Certificate”.

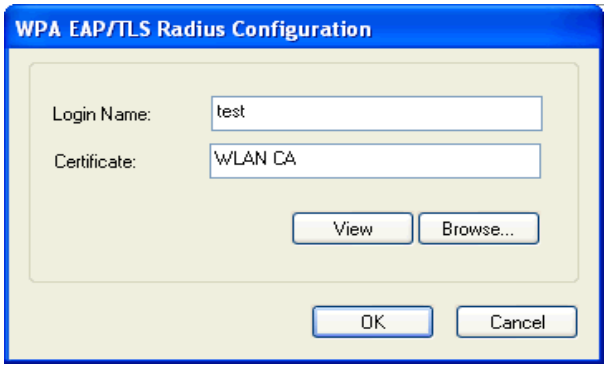

Figure 34. WPA Radius Configuration with Selected Certificate

8. Make sure that the “Login Name” is entered.
9. Click the OK button to exit the window.

WPA (802.1x PEAP) Support in Infrastructure Mode

In Infrastructure mode, the user can use two different authentication modes to connect to an access point through the radius server: WPA 802.1x EAP/TLS or WPA 802.1x PEAP.

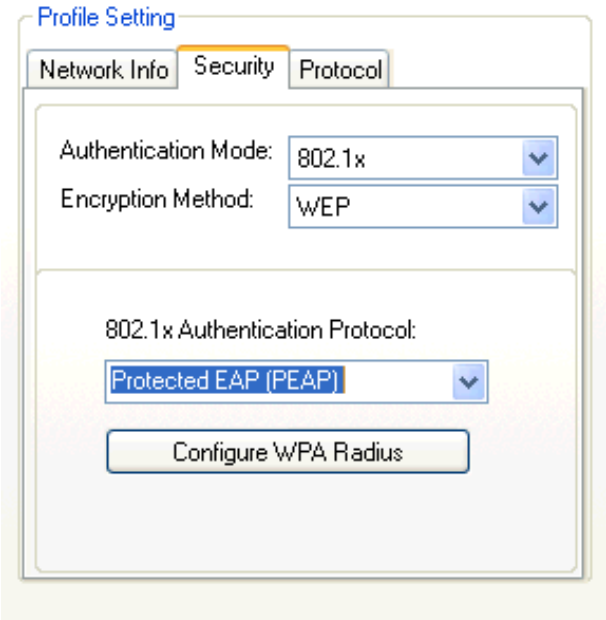

Figure 35. Security Tab – WPA (802.1x PEAP)

To use WPA 802.1x PEAP, proceed as follows:

1. In the field “Authentication Mode”, select 802.1X.
2. In the field “Encryption Method”, select TKIP or WEP.
3. From the pulldown menu under “802.1x Authentication Protocol” select PROTECTED EAP (PEAP).
4. Click on the CONFIGURE WPA RADIUS button to configure security settings.
   The window “WPA Radius Configuration” is displayed.

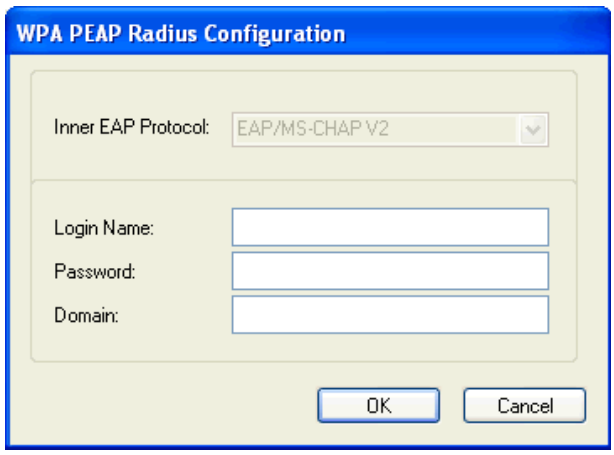

Figure 36. WPA Radius Configuration for WPA 802.1 PEAP

5. Enter all required information (Login Name, Password, Domain).

Protocol

On the PROTOCOL tab the user can set or change protocol information related to the network connection.

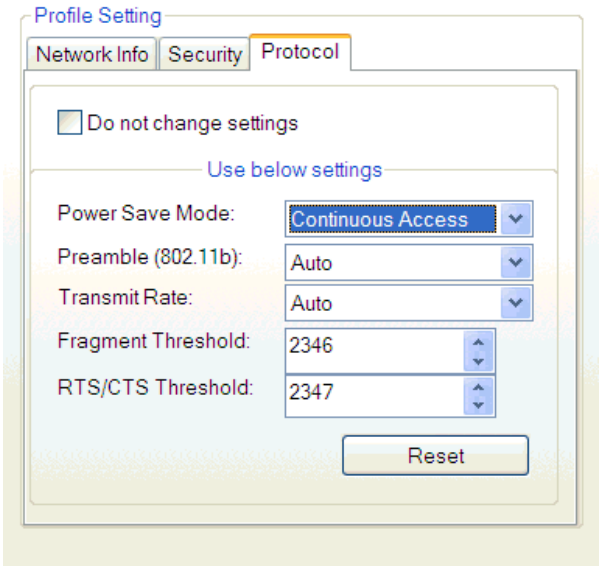

Figure 37. Protocol Tab

The tab provides the following options:

- *Do not change settings* – If this checkbox is activated, the protocol settings are not changed when the profile is applied.
- "Use below settings" – If the *Do not change settings* checkbox is deactivated, some of the protocol settings below can be changed:
  - "Power Save Mode" – Sets the power mode. Available options are CONTINUOUS ACCESS and MAX POWER SAVE. The default is CONTINUOUS ACCESS.
  - "Preamble (802.11b)" – Sets the radio preamble to AUTO or LONG. This option takes effect only when attaching to an 802.11b network.
  - "Transmit Rate" – The range of the data rate depends on the type of access point that the SysKonnect Cardbus Adapter is connected to. The default setting is AUTO.

- "Fragment Threshold" – Sets the fragmentation threshold (the size that packets are fragmented into for transmission). The default setting is 2346.
- "RTS/CTS Threshold" – Sets the packet size at which the access point issues a Request-To-Send (or Clear-to-Send) frame before sending the packet. The default setting is 2346.
- RESET button – Clicking RESET returns the protocol settings to their default values.

Site Survey Tab

Clicking the SITE SURVEY tab displays the window "Site Survey".

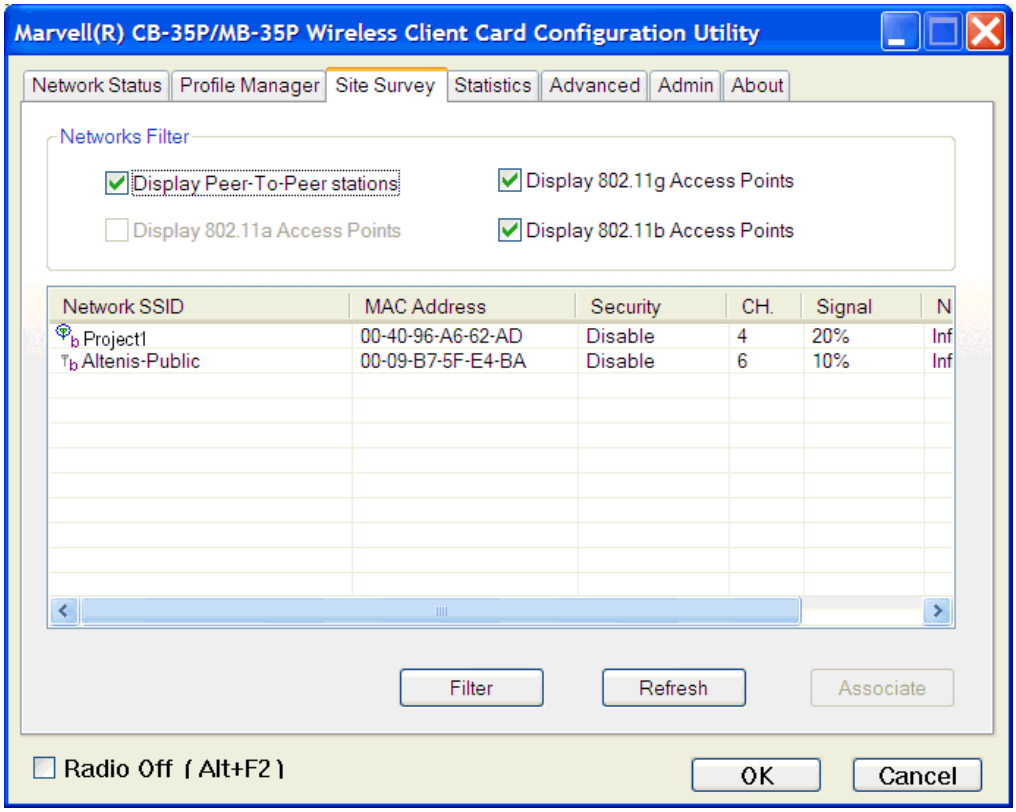

Figure 38. Site Survey Tab

This tab shows a list of all of the peer-to-peer and access point stations within range of the adapter.

Networks Filter

In the field "Networks Filter" the user can decide which sites are displayed in the "Site Survey List" window.

- *Display Peer-To-Peer stations* – If this checkbox is activated, all peer-to-peer stations within range are displayed.
- *Display 802.11a Access Points* – If this checkbox is activated, all 802.11a access points within range are displayed.
- *Display 802.11g Access Points* – If this checkbox is activated, all 802.11g access points within range are displayed.
- *Display 802.11b Access Points* – If this checkbox is activated, all 802.11b access points within range are displayed.

Site Survey List

This window reports information on the Ad-hoc or access point (AP) stations detected.

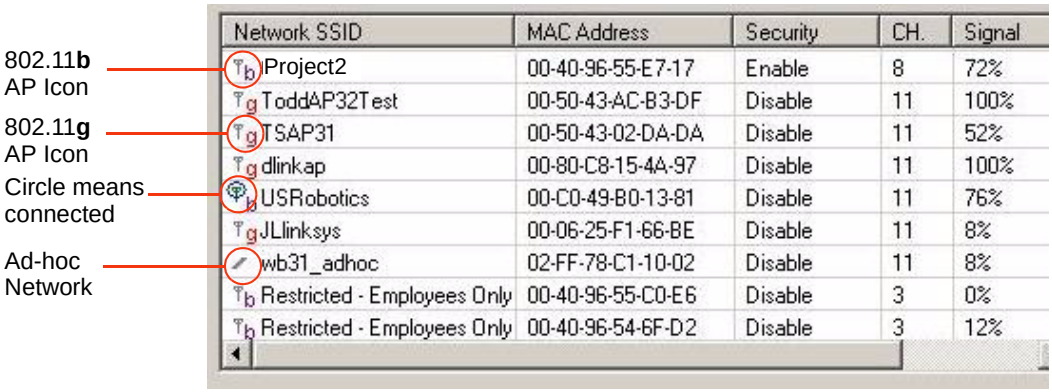

Figure 39. Site Survey List

The list provides the following columns:

- “Network SSID” – the network SSID label; i.e., the network name. The network name is a text string.
- “MAC Address” – the MAC address is a hardware address that uniquely identifies each node of a network.
- “Security” – security enabled or disabled.
- **“**CH.” – displays the channel used by the detected device.
- “Signal” – displays the signal strength of the detected device as a percentage.

Icons

In addition, the following icons may be displayed at the left in the column “Network SSID”:

- An antenna icon with a subscript b indicates an 802.11b access point.
- An antenna icon with a subscript g indicates an 802.11g access point.
- A circle around the antenna icon means the adapter is connected to this network.
- A slash icon indicates an Ad-hoc network.

Filter Button

Clicking the FILTER button displays the window “Advanced Filter”.

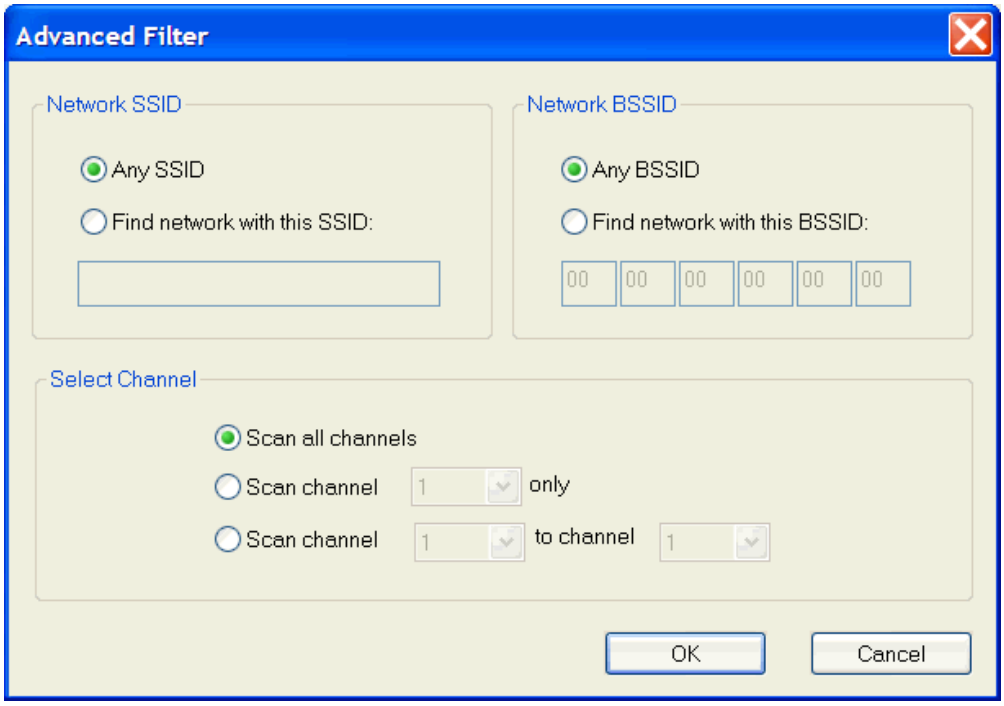

Figure 40. Advanced Filter

The window provides the following options:

- In the section “Network SSID”:
  - *Any SSID* – If this radio button is selected, any SSID is used.
  - *Find network with this SSID* – If this radio button is selected, the utility searches for the specified SSID.
- In the section “Network BSSID”:
  - *Any BSSID* – If this radio button is selected, any BSSID is used.
  - *Find network with this BSSID* – If this radio button is selected, the utility searches for the specified BSSID.
- In the section “Select Channel”:
  One or several specific channels or all channels can be selected and then be checked.

Only the checked channels will be used in the site survey.

Refresh Button

Clicking the REFRESH button requests a survey of the wireless networks in the area.

Statistics Tab

Clicking the STATISTICS tab displays the statistics of the current connect session.

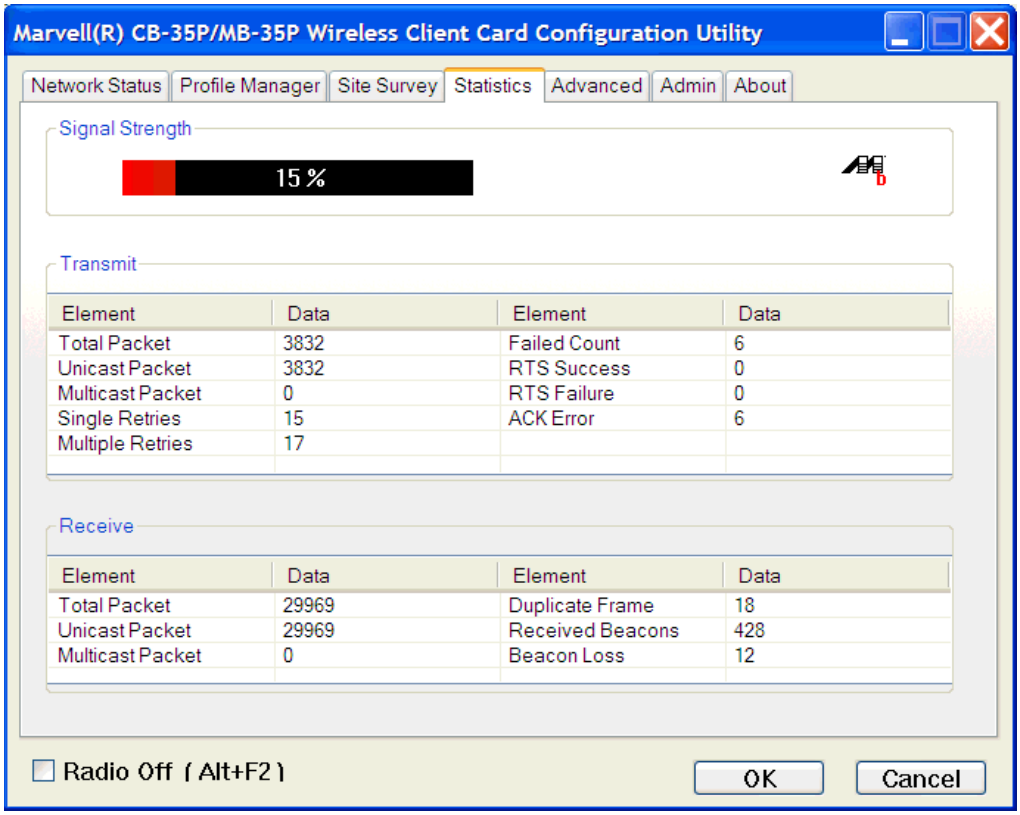

Figure 41. Statistics Tab

Signal Strength

The color-coded Signal Strength bar displays the signal strength of the last packet received by the adapter. Signal strength is reported as a percentage. A signal in the red area indicates a bad connection. A signal in the green area indicates a good connection.

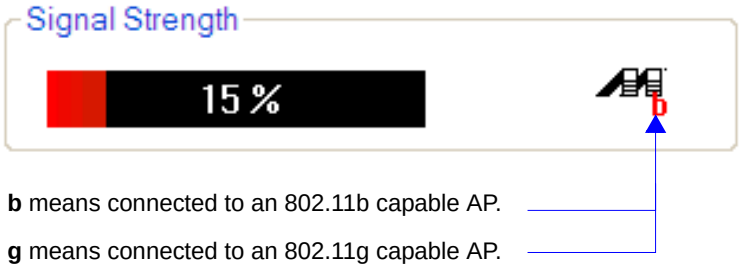

Figure 42. Signal Strength Section

Transmit Section

The “Transmit” section shows the information on the packets sent.

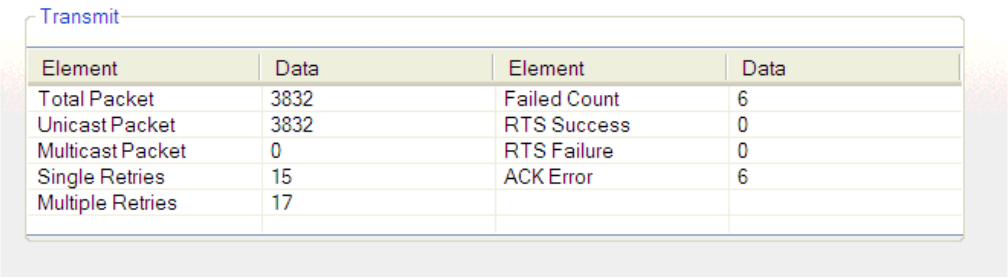

Figure 43. Transmit Section

- “Total Packet” – reports the total number of packets transmitted.
- “Unicast Packet” – reports the number of packets transmitted by the adapter that were destined for a single network node.
- “Multicast Packet” – reports the number of packets transmitted by the adapter that were destined for more than one network node.
- “Single Retries” – reports the number of packets that require one retry before the adapter received an acknowledgement.

  After the adapter sends a packet, it waits for an acknowledgement from the receiving radio to confirm that the packet was successfully received. If the acknowledgement is not received within a specified period of time, the adapter retransmits the packet.
- “Multiple Retries” – reports the number of packets that require more than one retry before the adapter received an acknowledgement.
- “Failed Count” – reports the number of packets that were not successfully transmitted because the adapter did not receive an acknowledgement within the specified period of time.
- “RTS Success” – reports the number of RTS attempts that were successful.
- “RTS Failure” – reports the number of RTS attempts that were not successful.
- “ACK Error” – reports the number of unicast transmit attempts for which no acknowledgement was received.

Receive Section

The “Receive” section shows the information on the packets received.

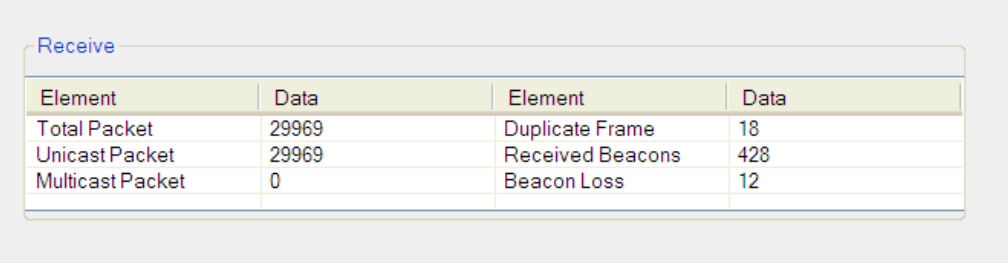

Figure 44. Receive Section

- “Total Packet” – reports the total number of packets received.
- “Unicast Packet” – reports the number of packets received by the adapter that were destined for a single network node.

- “Multicast Packet” – reports the number of packets received by the adapter that were destined for more than one network node.
- “Duplicate Frame” – reports the number of duplicate frames received.
- “Received Beacons” – reports the number of beacons received after association is established.
- “Beacon Loss” – reports the number of missing beacons after association is established.

Advanced Tab

Clicking the ADVANCED tab displays the window “Advanced”. This tab displays the advanced parameters available.

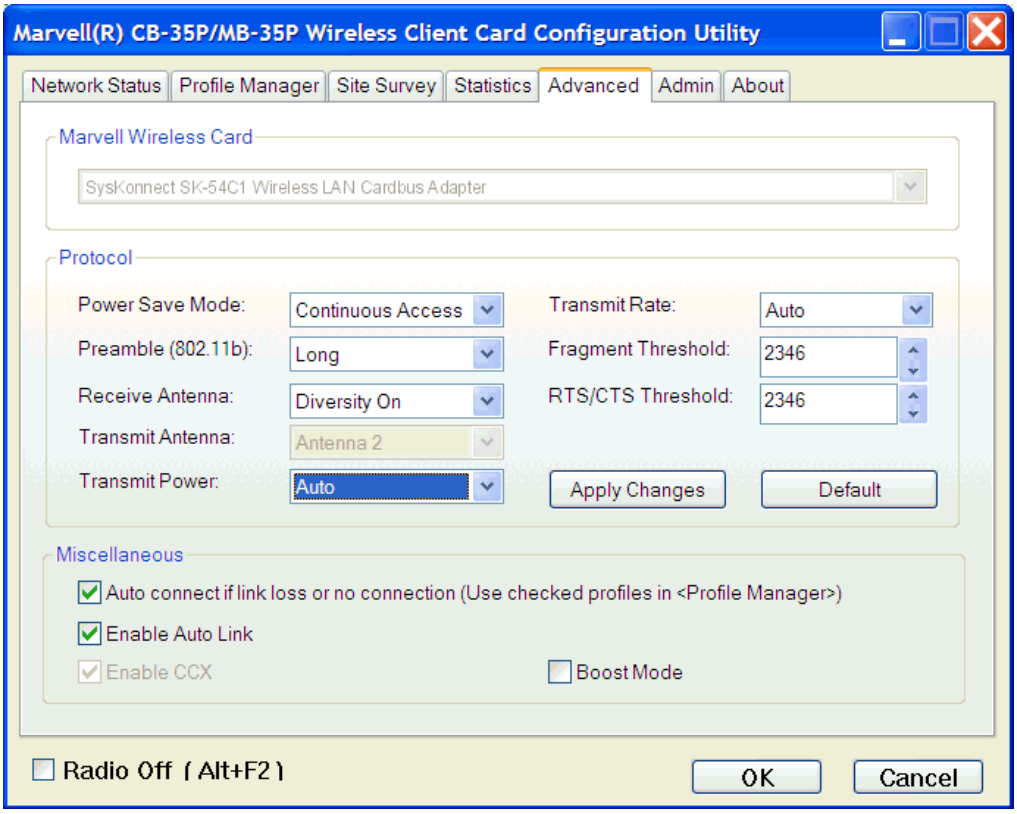

Figure 45. Advanced Tab

Marvell Wireless Card

This section shows the type of SysKonnect Cardbus Adapter installed.

Protocol

This section of the Advanced tab sets the “Protocol” options.

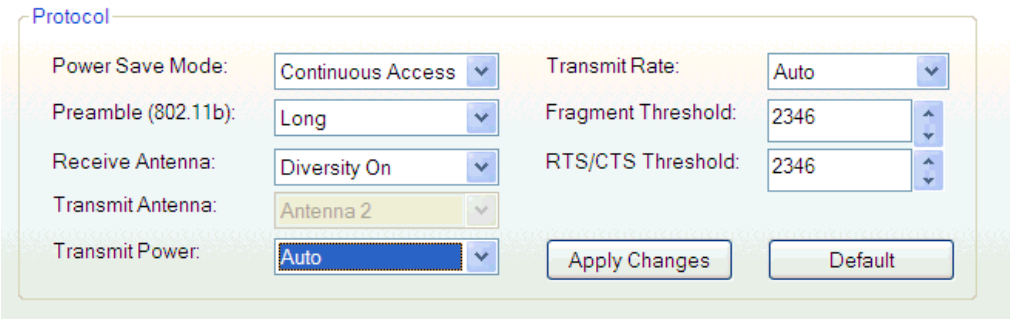

Figure 46. Advanced – Protocol Section

- “Power Save Mode” – sets the power mode:
  - CONTINUOUS ACCESS
  - MAX POWER SAVE
- “Preamble (802.11b)” – sets the radio preamble (takes effect only when attaching to 802.11b networks):
  - AUTO
  - LONG
- “Transmit Antenna” – transmit antenna mode is set to ANTENNA 2
- “Receive Antenna” – sets the receive antenna mode:
  - DIVERSITY ON
  - DIVERSITY OFF
- “Transmit Rate” – the range of the data rate depends on the type of access point that the SysKonnect Cardbus Adapter is connected to. The default setting is AUTO.
- “Fragment Threshold” – sets the fragmentation threshold (i.e., the size that packets are fragmented into for transmission). The default setting is 2346.
- “RTS/CTS Threshold” – sets the packet size at which the access point issues an RTS (or CTS) frame before sending the packet. The default setting is 2346.

The APPLY CHANGES button configures the options according to the changes entered, whereas the DEFAULT button applies the default values.

Miscellaneous

This section provides further protocol options.

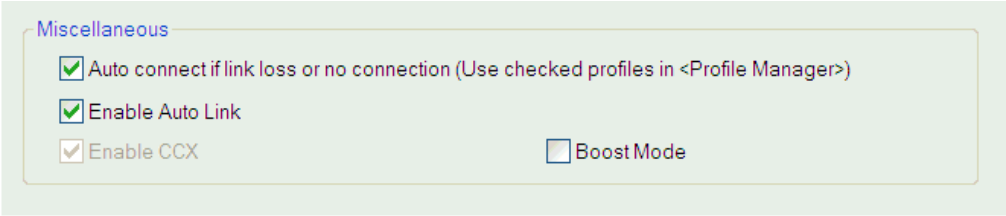

Figure 47. Advanced – Miscellaneous Section

- *Auto connect if link loss or no connection (Use checked profiles in <Profile Manager>)* – Disabling this checkbox disables the auto-configuration feature. Whenever there is a link

loss, auto-configuration tries to establish a connection according to the checked profiles in the Profile Manager.

- *Enable Auto Link* – This checkbox allows the user to enable/disable the Auto Link feature.
- *Boost Mode* – This checkbox allows the user to enable the *Boost Mode* for performance enhancement.

Admin Tab

Clicking the ADMIN tab displays the window “Admin”. This tab enables the import and export of profiles.

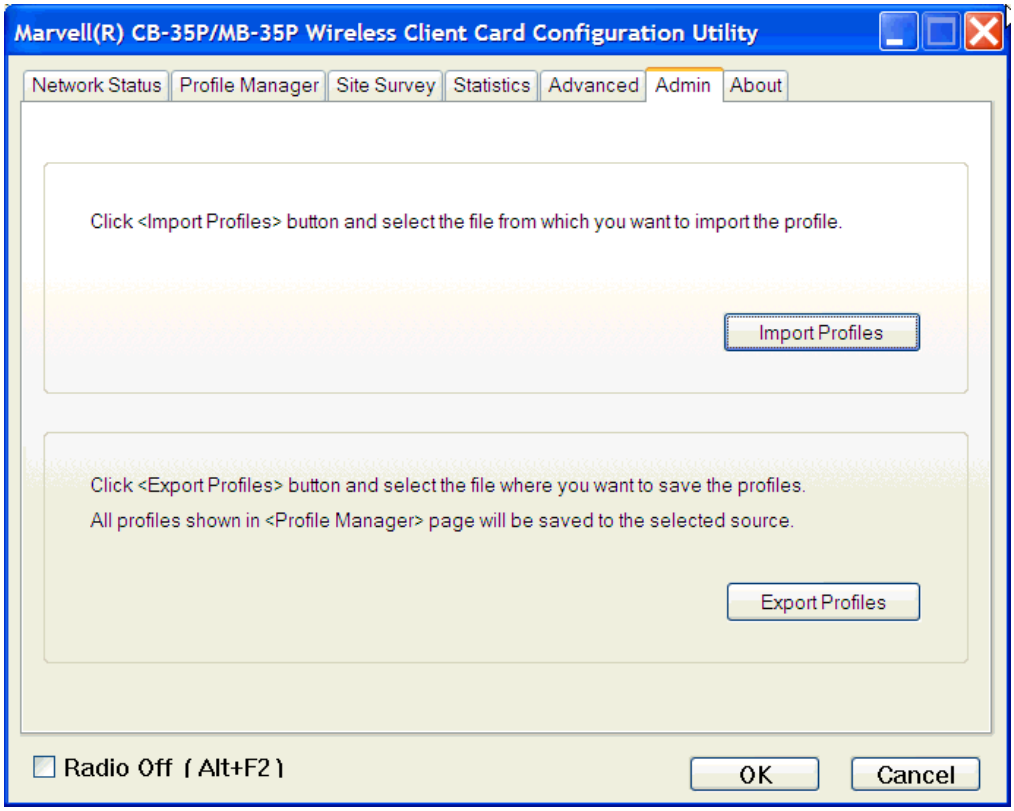

Figure 48. Admin Tab

Import Profiles

To import a profile, proceed as follows:

1. Click the IMPORT PROFILES button.
2. Select the path and filename of the profile.
3. Click OPEN.

Export Profiles

To export a profile, proceed as follows:

1. Click the EXPORT PROFILES button.
2. Select the path and filename of the profile.
3. Click SAVE.

About Tab

Clicking on the ABOUT tab displays the window “About”. This tab contains the following information: the MAC address of the SysKonnect Cardbus Adapter and region code assigned, the firmware version and NDIS driver version used on the system and the Marvell Configuration Utility version.

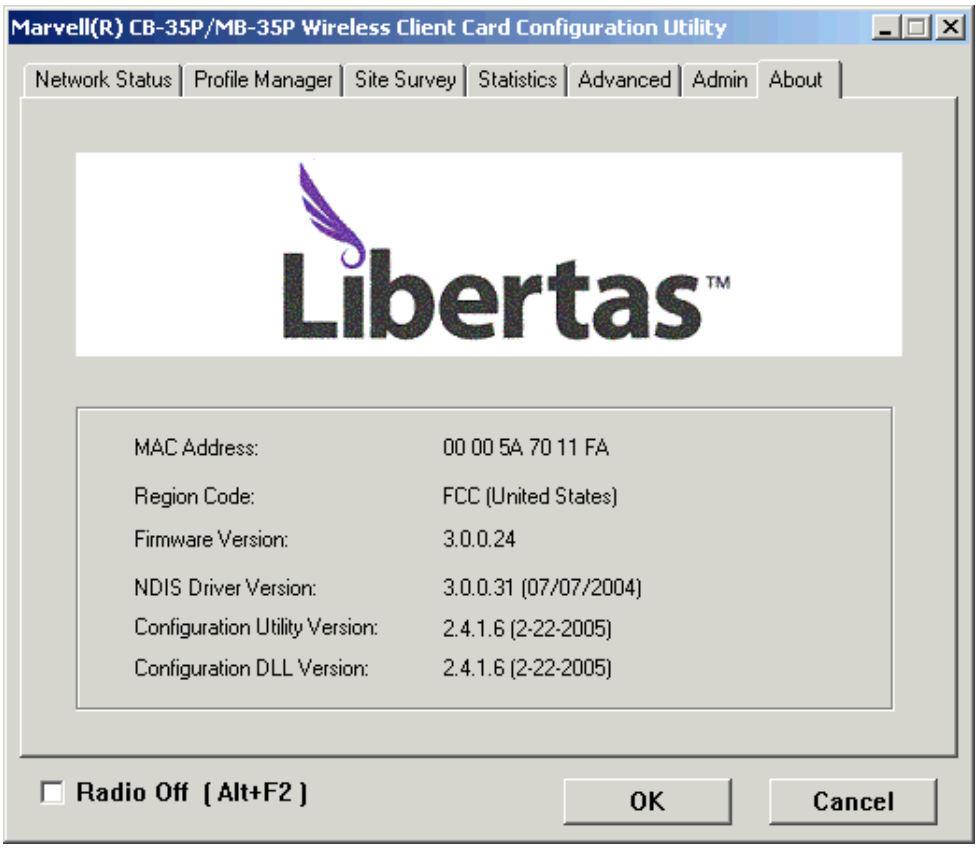

Figure 49. About Tab

4 Odyssey Client

Features

The Odyssey Client is a multi-platform 802.1X access client, which provides state-of-the-art security to protect the network. It is easily deployed across all desktop and handheld devices for the lowest overhead and gives administrators a superior level of control over how users can connect to the network.

The Odyssey Client:

- corresponds to IEEE standard 802.1x
- supports a wide variety of WLAN security (EAP) authentication types, including EAP-TTLS, EAP-PEAP, EAP-TLS, Cisco's EAP-FAST and LEAP, EAP-SIM, and EAP-MD5
- provides Wi-Fi Protected Access™ (WPA™)
- enables authentification with common Windows authentification data, faciliating administration
- forwards authentification requirements to other Radius servers enabling authentification through non-Windows systems

Installation

The Odyssey Client can be installed along with the Marvell Configuration Utility. If so, the installation of the Odyssey Client Manager for Marvell starts automatically after the Marvell Configuration Utility installation is complete. There is no need to reboot when Windows 2000 and XP systems are used.

To install the Odyssey Client along with the Marvell Configuration Utility, proceed as follows:

1. Activate both checkboxes in the "Setup" window.

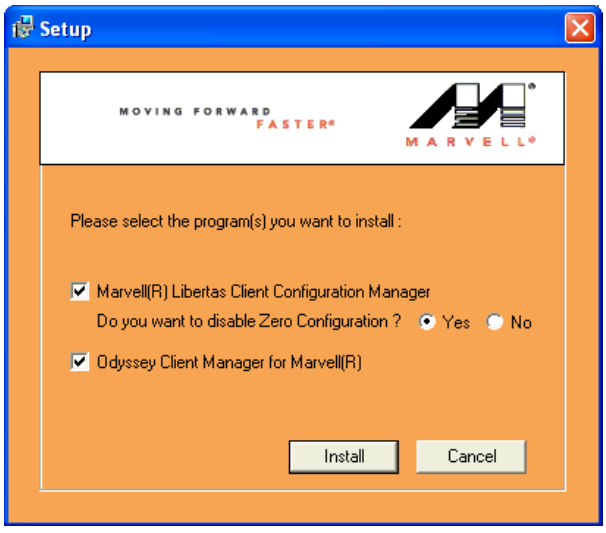
Setup
MOVING FORWARD FASTER
MARVELL
Please select the program(s) you want to install :
Marvell(R) Libertas Client Configuration Manager
Do you want to disable Zero Configuration ? Yes No
Odyssey Client Manager for Marvell(R)
Install
Cancel

Figure 50. Setup Screen for Marvell Client Configuration Manager and Odyssey Client Manager

2. Click INSTALL.

   The installation procedure starts automatically after the Marvell Configuration Utility installation is complete. The "InstallShield Wizard" is displayed.

Odyssey Client - InstallShield Wizard
FUNK SOFT WARE
Welcome to the InstallShield Wizard for Odyssey Client
The InstallShield(R) Wizard will install Odyssey Client on your computer. To continue, click Next.
WARNING: This program is protected by copyright law and international treaties.
www.funk.com
< Back
Next >
Cancel

Figure 51. Odyssey Client – InstallShield Wizard

3. Click NEXT.
4. Accept the License Agreement.
5. Click NEXT.
   In the same window, the menu “Customer Information” is displayed.

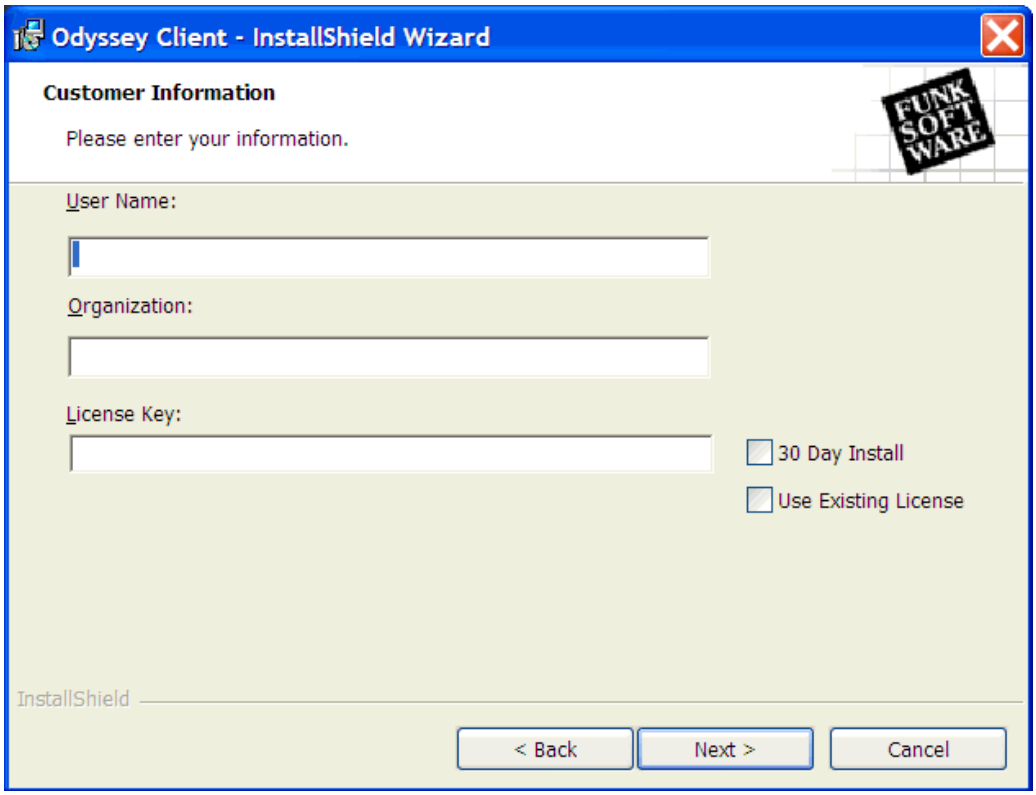

Figure 52. Odyssey Client – Customer Information

6. Enter a name in the field “User Name”.
7. Enter an organization in the field “Organization”.
   You have got the possibility to either use a 30-day-trial version or a licensed version.
8. If using a licenced version, enter the licence number in the field “License Key”.
9. Click NEXT.
   The menu “Setup Type“ is displayed.
10. Select *Complete* (default).
11. Click NEXT.
12. Click INSTALL.
    When the installation is complete, the window “InstallShield Wizard Completed” is displayed.

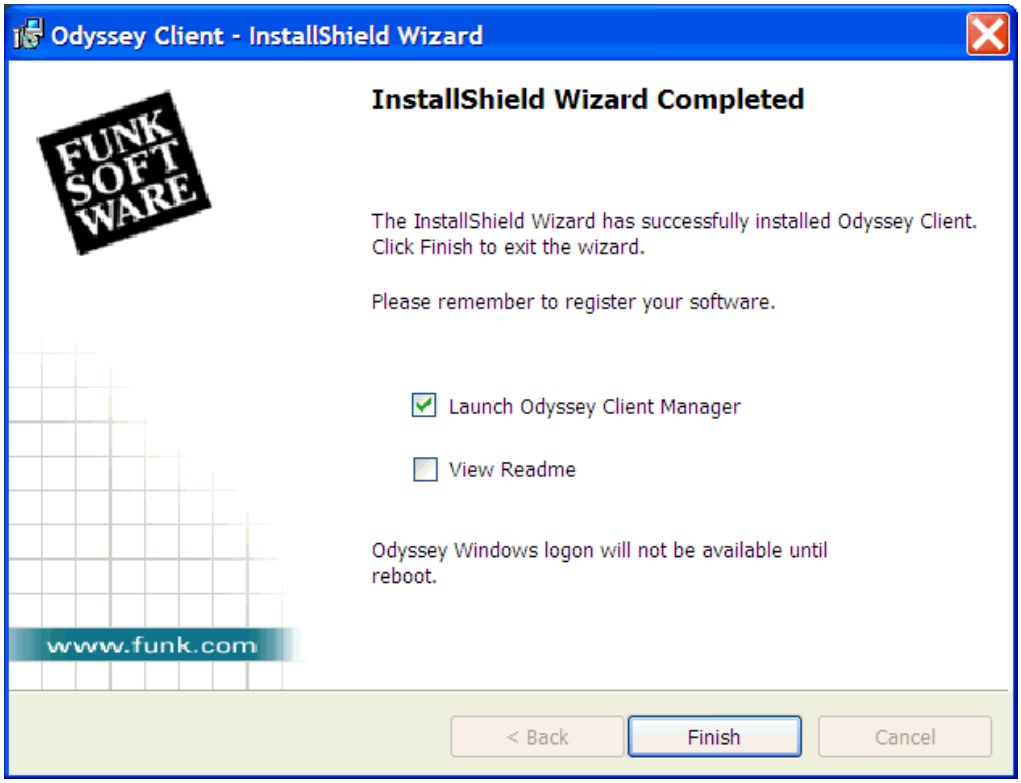
Odyssey Client - InstallShield Wizard
InstallShield Wizard Completed
The InstallShield Wizard has successfully installed Odyssey Client. Click Finish to exit the wizard.
Please remember to register your software.
Launch Odyssey Client Manager
View Readme
Odyssey Windows logon will not be available until reboot.
www.funk.com
< Back
Finish
Cancel

Figure 53. Odyssey Client – InstallShield Wizard Completed

13. Select *Launch Odyssey Client Manager*.
14. Click FINISH.

When the in stallation is finished, an icon symbolizing the Odyssey Client appears in the task bar: .

If you purchased the licensed version, see the documentation of the Odyssey Client Manager to learn about its functionality.

5 Features

The SysKonnect SK-54C1 Wireless LAN Cardbus Adapter is comprised of highly integrated Marvell 802.11g/b chipsets. The chipsets consist of a radio frequency (RF) transceiver and an integrated MAC/Baseband WLAN client System-on-Chip device. Marvell chipset solutions are compliant with the IEEE 802.11g/b standard and support point-to-point and point-to-multipoint access that seamlessly connect to wired Ethernet and PC network LANs.

Wireless Modes

The SysKonnect Cardbus Adapter operates similar to Ethernet adapters except that a radio replaces the wires between communication devices. All existing applications that operate over Ethernet will operate over a SysKonnect wireless network without any modification or need for special wireless networking software.

The adapter supports the following network technologies:

- Ad-hoc (peer-to-peer group) mode
- (Access Point, AP) Infrastructure mode

Ad-hoc Mode

In Ad-hoc mode (also referred to as peer-to-peer mode), wireless clients send and receive information to and from other wireless clients without using an access point. In comparison to Infrastructure mode, this type of WLAN connection only contains wireless clients. Ad-hoc mode is useful for establishing a network where wireless infrastructure does not exist or where services are not required. Two or more computers can establish an Ad-hoc network when within range of one another. Each computer dynamically connects to one another without additional configuration. Ad-hoc mode is used to network computers at home or in small offices. It is also used to set up a temporary wireless network for meetings.

Infrastructure Mode

In Infrastructure mode, wireless devices communicate with other wireless devices or devices on the LAN side wired network through access points. When communicating through wired networks, Cardbus adapters send and receive information through access points (APs). The access point receives the information and redirects it to clients, which then receive the information.

Access points are typically strategically located within an area to provide optimal coverage for wireless clients. A large WLAN uses multiple access points to provide coverage over a wide area. Access points connect to a LAN through a wired Ethernet connection. Access points send and receive information from the LAN through this wired connection. Most corporate WLANs operate in Infrastructure mode because they require access to the wired LAN in order to use services such as file servers or printers.

6 Troubleshooting

Removing incomplete Installations

When inserting the SysKonnect SK-54C1 Wireless LAN Cardbus Adapter into the computer and before running the SysKonnect installation software from the SysKonnect CD-ROM, Windows will detect the new hardware and attempt to install a driver for it. To guarantee installation of the correct driver and the Marvell Configuration Utility software, insert the SysKonnect CD-ROM and complete the installation of the Marvell Configuration Utility before installing the adapter.

Adapter installed, Marvell Configuration Utility not found

The Marvell installation package installs both the Marvell Configuration Utility and the Windows driver. The Marvell Configuration Utility is accessed by double-clicking the MARVELL LIBERTAS CLIENT CONFIGURATION MANAGER icon in the system tray. It is also accessed through the PROGRAMS menu.

The Marvell Configuration Utility will only function properly if prior to the setup the adapter is installed properly. When the adapter is inserted and then the Marvell Configuration Utility is called without installing the Windows driver, the Marvell Configuration Utility will be installed but some of the tabs will be disabled and the LINK INFORMATION status will indicate `Card Unplugged` or `Not Connected`.

To install the Marvell Configuration Utility after the adapter has already been installed under Windows:

1. Verify that no previous version of the Marvell Configuration Utility is present on your system. Use ADD/REMOVE PROGRAMS in the Control Panel.
   If any version of the Marvell Configuration Utility is listed, highlight it and click REMOVE.
2. In the Device Manager, with the adapter inserted, verify that the adapter is listed.
   If the adapter is not listed in the Device Manager, do not continue with these steps. Instead, reboot the computer and install the adapter driver and the Marvell Configuration Utility according to the installation instructions provided in this manual.
   If the adapter is listed, proceed with step 3 to install the Marvell Configuration Utility.
3. Insert the SysKonnect CD-ROM into your CD-ROM drive.
4. Click EXIT on the SysKonnect screen that appears (the adapter is already installed (do not run the SysKonnect installation software)).
5. Double-click MY COMPUTER or select START > MY COMPUTER.
6. Right-click the CD-ROM drive containing the SysKonnect CD-ROM.
7. Click EXPLORE.
8. Make sure that the adapter is inserted.
9. Find the file PROSet.msi in the root of the SysKonnect CD-ROM.
10. Double-click it, and follow the prompts.
11. In the window “Setup Type”, select *Typical*.
12. Click NEXT.
13. Click INSTALL.
14. Once the installation is complete, double-click the MARVELL LIBERTAS CLIENT CONFIGURATION MANAGER icon in the system tray.
15. If the Marvell Configuration Utility does not detect the adapter, see section “Uninstalling earlier Versions of the Marvell Configuration Utility” on page 56.

The Marvell Configuration Utility is also installed by running the SysKonnect installation software from the SysKonnect CD-ROM after completing the installation of the adapter under Windows.

Adapter does not appear in the Marvell Configuration Utility

If the adapter is not listed when running the Marvell Configuration Utility, or no wireless signal meter appears in the system tray, proceed as follows:

1. Uninstall and re-install the driver and the Marvell Configuration Utility software using the following instructions:
   - Insert the SysKonnect CD-ROM.
   - Click INSTALL SOFTWARE on the screen that appears.
   - Click NEXT when prompted to remove the adapter.
   - When removal is successful, click OK.
2. From the Control Panel, click ADD/REMOVE PROGRAMS.
3. If the Marvell Configuration Utility is listed, highlight it and click REMOVE.
4. Reboot the computer.
5. Re-insert the SysKonnect CD-ROM.
6. Click INSTALL SOFTWARE on the screen that appears.
7. Follow the prompts to complete the installation.
   See the default installation instructions for details.

Uninstalling earlier Versions of the Marvell Configuration Utility

Previous versions of the Marvell Configuration Utility do not support the SysKonnect SK-54C1 Wireless LAN Cardbus Adapter. If there is a version of the Marvell Configuration Utility on your system that was installed for some other SysKonnect product, uninstall that version before starting to install the SysKonnect Cardbus Adapter.

To uninstall the Marvell Configuration Utility, proceed as follows:

1. In the Control Panel, go to ADD/REMOVE PROGRAMS.
2. Remove any versions of the Marvell Configuration Utility listed.
3. Install the adapter driver and the Marvell Configuration Utility according to the installation instructions provided.

Disabling Windows Configuration Feature

Use either the Marvell Configuration Utility or the Windows Configuration Utility (in Windows XP: the Zero Configuration Utility) to configure the wireless settings, but not both. It is recommended that the Windows Utility be disabled and that the Marvell Configuration Utility is used to configure the wireless adapter. If the Windows feature is enabled and the Marvell Configuration Utility is also loaded under Windows, the Windows Utility will override the Marvell Configuration Utility. The main screen of the Marvell Configuration Utility will display the current status and signal strength information, but the profiles and any other tab of the Marvell Configuration Utility are disabled and cannot be activated.

For information on deactivating the Windows Configuration Utility, see the Microsoft Windows documentation.

Network Status from Windows Tray Icon inconsistent in Windows XP

In Windows XP, if the Zero Configuration Utility is enabled and the Marvell Configuration Utility is running, the network status displayed is inconsistent with the actual network status. For example, if associated successfully to a network using the Marvell Configuration Utility, the utility shows the network status as “Connected”. However, when clicking the Windows Wireless Network tray icon or the Network Connections icon, the network status will be reported as “Wireless Connection Unavailable”.

If the Zero Configuration Utility is enabled, Windows cannot determine that the connection has been established through the Marvell Configuration Utility. To avoid this inconsistency, the Zero Configuration Utility should be disabled when using the Marvell Configuration Utility. After the Zero Configuration Utility has been disabled, the network status displayed will again be consistent with the actual status.

As long as the Marvell Configuration Utility is running, all association requests from the Zero Configuration Utility are blocked to avoid conflicts. To use the Zero Configuration Utility instead of the Marvell Configuration Utility, terminate the Marvell Configuration Utility.

7 Important Information

Technical Support

If you encounter any problems, read the relevant sections of the manual. If you cannot solve your problems, consult our technical support.

If you contact our technical support engineers, have the following information ready:

- adapter type
- driver version
- operating system
- configuration of your computer
- type of cabling

Our support team can be reached as follows:

	North / South America, Pacific Rim	Europe
Office hours	24 hours support via paging service	Mon-Thu 8:00 AM - 5:00 PM Fri 8:00 AM - 03:30 PM (CET)
Phone	+1 866 782 2507 (toll free in the USA) +1 408 222 0666 +1 408 787 5395 (pager)	+49 7243 502 330 +49 1805 759 526
Fax	+1 408 752 9029	+49 7243 502 364
WWW	http://www.syskonnect.com	http://www.syskonnect.de
E-mail	support@syskonnect.com	support@syskonnect.de
Address	SysKonnect, Inc. A Marvell®Company 700 First Avenue Sunnyvale, CA 94089 USA	SysKonnect GmbH A Marvell®Company Siemensstraße 23 D-76275 Ettlingen Germany

Calls received outside office hours in Europe are serviced by an answering machine and will be dealt with as soon as possible.

Returning a Wireless LAN Cardbus Adapter for Repair

If you want to return a faulty product to SysKonnect, follow these steps:

1. Contact us by phone, fax, or e-mail.

	North / South America, Pacific Rim	European and other countries
Phone	+1 866 782 2507 (toll free) +1 408 222 0666 (toll number)	+49 7243 502 476 +49 1805 759 526
Fax	+1 408 752 9029	+49 7243 502 364
E-mail	support@syskonnect.com	support@syskonnect.de

   We will send you an RMA (Return Material Authorization) form by fax or e-mail.
2. Complete the form.

3. Return the form to us.
   We will send you a unique reference number and inform you if the product is still under warranty.
4. Send us the faulty product packed in an antistatic bag, with a copy of the completed form enclosed in its original packaging (or comparable packaging).
5. Write the reference number issued by SysKonnect clearly visible on the outer packaging.

SysKonnect cannot accept any returned product without an RMA number on the outer packaging. The warranty does not apply to products that have been damaged by electrostatic discharge or inadequate packaging.

Additional Documentation and Updates

On the installation CD-ROM additional information is available, i.e. about other SysKonnect products or other language versions of this manual.

To view a document on the CD-ROM, proceed as follows:

1. Insert the installation CD-ROM into your CD-ROM drive.
2. On the start page of the CD-ROM, click MANUAL.
   A list with the available manuals is displayed.
3. Click the appropriate document.
   The PDF file is displayed.

SysKonnect maintains a site on the World Wide Web where you can find the latest information on our product range and our customer support services. The latest software is also provided on the SysKonnect web site.

To download the latest software or firmware from our web site, proceed as follows:

1. Visit our web site: http://www.syskonnect.com.
2. Click the button TECHNICAL SUPPORT.
3. Click the button DRIVER LIBRARY.
   The latest software, sorted by product groups, can be found here.
4. Click the appropriate network technology, e.g. WIRELESS LAN.
5. Select the product family.
   The available software for this adapter is displayed.
6. Click the appropriate software.

Click the diskette symbol to download the software.

Technical Specifications

Model	SysKonnect SK-54C1 Wireless LAN Cardbus Adapter
Dimensions (WxDxH)	95 x 63 x 23 mm
Power consumption	@ max. 5.5 W
External power adapter	5V DC
LEDs	2
Temperature range	Operation: 0°C to + 40°C Storage: -10°C to + 70°C Shipping: -40°C to + 70°C
Relative humidity	Operation: 10% to 80% non-condensing Storage: 5% to 90% non-condensing Shipping: 5% to 100% non-condensing
Safety and CE standards	CE class B; compliant to 99/5//EEC directive and EMC standards EN300328-2, EN301489-1/-17, EN60950 FCC class A
Warranty	2 years

8 Acronyms and Abbreviations

The following table shows a list of acronyms and abbreviations used throughout this document.

Term	Definition
802.11	A family of specifications developed by the IEEE for wireless LAN technology.
802.11b	An extension to 802.11 for WLANS and provides 11 Mbps transmission in the 2.4 GHz band.
802.11g	An extension to 802.11 for WLANS and provides 11 Mbps transmission in the 2.4 GHz band.
ACK	Acknowledgement
Ad-hoc	A group of computers each with wireless adapters, connected as an independent WLAN.
AP	Access Point. A communication hub for wireless device users to connect to a wired LAN.
BSS	Basic Service Set
BSSID	Basic Service Set Identifier
CardBus	The 32-bit version of the PCMCIA PC Card standard. In addition to supporting a wider bus (32 bits instead of 16 bits), CardBus also supports bus mastering and operation speeds up to 33 MHz.
CTS	Clear-to-Send
DHCP	Dynamic Host Configuration Protocol
EAP	Extensible Authentication Protocol
FCC	Federal Communications Commission
IEEE	Institute of Electrical and Electronics Engineers
LAN	Local Area Network
MAC	Media Access Controller
MIC	Message Integrity Check
PCMCIA	Personal Computer Memory Card International Association
PEAP	Protected EAP
PSK	Pre-shared Keys
RF	Radio Frequency
ROM	Read Only Memory
RTS	Request-to-Send
Rx	Receive
SoC	System-on-Chip
SSID	Service Set ID. A 32-character unique identifier attached to the header of packets sent over a WLAN that acts as a password when a mobile device tries to connect to the BSS.
TCP/IP	Transmission Control Protocol/Internet Protocol
TKIP	Temporal Key Integrity Protocol

Term	Definition
TLS	Transport Layer Security
Tx	Transmit
WEP	Wired Equivalent Privacy. A security protocol for WLANs defined in the 802.11b standard.
WLAN	Wireless Local Area Network
WPA	Security standard proposed by the Wi-Fi Alliance that uses additional algorithms to further enhance wireless connectivity.
WPA-PSK	Wi-Fi Protected Access-Preshared Key

Appendix A. License and Warranty Information

The Americas, Asia, Australia, New Zealand, Pacific

Dear Customer,

if you acquired your SysKonnect product in the UNITED STATES, CANADA or any other country in the AMERICAS, ASIA, AUSTRALIA, NEW ZEALAND, PACIFIC, the following license and purchase agreement applies to you.

This is a legal agreement between you, the end user and SysKonnect Incorporation, a California U.S.A. Incorporation (SysKonnect Inc.).

SysKonnect Inc. License and Purchase Agreement

By opening the sealed disk package and taking possession of the hardware, you are agreeing to be bound by the terms of this Agreement. If you do not agree to the terms of this Agreement, promptly return the unopened and unused disk package and hardware with the accompanying items (including all written materials and other accessories) to the place of purchase for a full refund.

Grant of Software License

This SysKonnect Inc. License Agreement (License) permits you to use one copy of the SysKonnect Inc. software product acquired with this License (“SOFTWARE”) on any single computer, provided the SOFTWARE is in use on only one computer at any time. If you have multiple Licenses for the SOFTWARE, then at any time, you may have as many copies of the SOFTWARE in use as you have Licenses. The SOFTWARE is “in use” on a computer when it is loaded into the temporary memory (i.e. RAM) or installed into the permanent memory (e.g. hard disk or other storage device) of that computer, except that a copy installed on a network server for the sole purpose of distribution to other computers is not “in use”. If the anticipated number of users of the SOFTWARE will exceed the number of applicable Licenses, then you must have a reasonable mechanism or process in place to assure that the number of persons using the SOFTWARE concurrently does not exceed the number of Licenses. If the SOFTWARE is permanently installed on the hard disk or other storage device of a computer (other than a network server) and one person uses that computer more than 80% of the time it is in use, then that person may also use the SOFTWARE on a portable or home computer.

Copyright

The SOFTWARE is owned by SysKonnect Inc. or its suppliers and is protected against copying by copyright laws, international treaty provisions and other national laws.

If the SOFTWARE is not copy protected you may either make one copy of the SOFTWARE solely for backup or archival purposes, or transfer the SOFTWARE to a single hard disk provided you keep the original solely for backup or archival purposes.

You may not copy the Product Manual(s) or written materials accompanying the SOFTWARE or HARDWARE.

Other Restrictions

You may not rent or lease the SOFTWARE or HARDWARE, but you may transfer your rights under this SysKonnect Inc. License and Purchase Agreement on a permanent basis provided you transfer all copies of the SOFTWARE and all written materials, and the recipient agrees to the terms of this Agreement. You may not reverse engineer, decompile or disassemble the SOFTWARE. Any transfer must include the most recent update and all prior versions.

Hardware

SysKonnect Inc. warrants, that the hardware will be delivered free from defect and in working condition. SysKonnect Inc. does not assume liability for nor warrant damage to the hardware after delivery. SysKonnect also does not warrant total applicability for specific applications or customer Network environments.

Limited Warranty for Hardware and Software

Limited Warranty

SysKonnect Inc. warrants that the SOFTWARE will perform substantially in accordance with the accompanying Product Manual(s) for a period of 90 days from the date of receipt.

SysKonnect warrants

that NETWORK INTERFACE CARDS and NETWORK INFRASTRUCTURE COMPONENTS (e.g., hubs, switches, concentrators) will be free from defects in materials and workmanship under normal use and service for a period of 2 years from the date of receipt, and other HARDWARE for a period of 6 months from the date of receipt respectively.

This warranty is given by SysKonnect Inc. as producer of the PRODUCT; possible legal warranty or liability claims against the dealer, whom you have acquired your SOFTWARE or HARDWARE product from, shall neither replaced by nor limited through this warranty.

Customer Remedies

SysKonnect's entire liability and your exclusive remedy shall be, at SysKonnect's option, either return of the price paid, or repair or replacement of the SOFTWARE or HARDWARE that does not meet SysKonnect's Limited Warranty and which is returned to SysKonnect Inc. with a copy of your receipt. This Limited Warranty is void if failure of the SOFTWARE or HARDWARE has resulted from accident, abuse, or misapplication. Any replacement SOFTWARE will be warranted by SysKonnect Inc. only for the remainder of the original warranty period or 30 days, whichever is longer. Any replacement HARDWARE will be warranted for the remainder of the original warranty period or 6 months, whichever is longer.

No other Warranties

SysKonnect Inc. disclaims all other warranties or liabilities with respect to the SOFTWARE, the HARDWARE, the accompanying Product Manual(s) and other written materials and any other accessories.

No Liability for Consequential Damages

SysKonnect Inc. does not warrant the software and hardware for a specific application, nor does SysKonnect Inc. accept any consequential damages due to the use of the hardware or software. SysKonnect Inc. and its suppliers shall not be liable for any other damages whatsoever (including, without limitation, damages for loss of business profits, business interruption, loss of business information or data, property loss or other financial loss), arising out of the use of or the inability to use this SysKonnect Inc. product, even if SysKonnect Inc. has been advised of the possibility of such damages. In any case, SysKonnect's entire liability shall be limited to the amount actually paid by you for the product.

Other

This agreement is governed by the procedural and substantive laws of the State California, U.S.A. UN Trade Laws shall not be applicable in any case.

Should individual stipulations of this Agreement be or become invalid, this invalid stipulation shall be replaced by a stipulation, which is as close as possible to the invalid stipulation.

Should you have any questions concerning this Agreement, or if you desire to contact SysKonnect Inc. for any reason, please use the address information enclosed in this product or write to: SysKonnect Inc., A Marvell®Company, 700 First Avenue, Sunnyvale, CA 94089.

U.S. Government Use

Use, duplication, or disclosure by the United States Government is subject to restrictions as set forth in FAR § 52.227-14 (June 1987) Alternate III(g)(3) (June 1987), FAR § 52.227-19 (June 1987), or DFARS § 52.227-7013 (c)(1)(!!) (June 1988), as applicable. Contractor / Manufacturer is SysKonnect, Inc., A Marvell®Company, 700 First Avenue, Sunnyvale, CA 94089.

Europe

Dear Customer,

if you acquired your SysKonnect product in EUROPE, the following license and purchase agreement applies to you: This is a legal agreement between you, the end user and SysKonnect GmbH, incorporated in Ettlingen/Federal Republic of Germany.

SysKonnect License and Purchase Agreement

By opening the sealed disk package and taking possession of the hardware, you are agreeing to be bound by the terms of this Agreement. If you do not agree to the terms of this Agreement, promptly return the unopened and unused disk package and hardware with the accompanying items (including all written materials and other accessories) to the place of purchase for a full refund.

Grant of Software License

This SysKonnect License Agreement (License) permits you to use one copy of the SysKonnect software product acquired with this License (“SOFTWARE”) on any single computer, provided the SOFTWARE is in use on only one computer at any time. If you have multiple Licenses for the SOFTWARE, then at any time, you may have as many copies of the SOFTWARE in use as you have Licenses. The SOFTWARE is “in use” on a computer when it is loaded into the temporary memory (i.e. RAM) or installed into the permanent memory (e.g. hard disk or other storage device) of that computer, except that a copy installed on a network server for the sole purpose of distribution to other computers is not “in use”. If the anticipated number of users of the SOFTWARE will exceed the number of applicable Licenses, then you must have a reasonable mechanism or process in place to assure that the number of persons using the SOFTWARE concurrently does not exceed the number of Licenses. If the SOFTWARE is permanently installed on the hard disk or other storage device of a computer (other than a network server) and one person uses that computer more than 80% of the time it is in use, then that person may also use the SOFTWARE on a portable or home computer.

Copyright

The SOFTWARE is owned by SysKonnect or its suppliers and is protected against copying by copyright laws, international treaty provisions and other national laws.

If the SOFTWARE is not copy protected you may either make one copy of the SOFTWARE solely for backup or archival purposes, or transfer the SOFTWARE to a single hard disk provided you keep the original solely for backup or archival purposes.

You may not copy the Product Manual(s) or written materials accompanying the SOFTWARE or HARDWARE.

Other Restrictions

You may not rent or lease the SOFTWARE or HARDWARE, but you may transfer your rights under this SysKonnect License and Purchase Agreement on a permanent basis provided you transfer all copies of the SOFTWARE and all written materials, and the recipient agrees to the terms of this Agreement. You may not reverse engineer, decompile or disassemble the SOFTWARE. Any transfer must include the most recent update and all prior versions.

Hardware

The risk passes to you, the end user, upon taking possession (hand over) of the HARDWARE. Total qualities were not warranted.

Limited Warranty for Hardware and Software

Limited Warranty

SysKonnect warrants that the SOFTWARE will perform substantially in accordance with the accompanying Product Manual(s) for a period of 90 days from the date of receipt if you have created the required technical preconditions.

SysKonnect warrants that NETWORK INTERFACE CARDS and NETWORK INFRASTRUCTURE COMPONENTS (e.g., hubs, switches, concentrators) will be free from defects in materials and workmanship under normal use and service for a period of 2 years from the date of receipt, and other HARDWARE for a period of 6 months from the date of receipt respectively.

Any implied warranties on the SOFTWARE are limited to 90 days, to 2 years on the NETWORK INTERFACE CARDS and on the NETWORK INFRASTRUCTURE COMPONENTS and to 6 months on all other hardware. This warranty is given by SysKonnect as producer of the PRODUCT; possible legal warranty or liability claims against the dealer, whom you have acquired your SOFTWARE or HARDWARE product from, shall neither replaced by nor limited through this warranty.

Customer Remedies

SysKonnect's entire liability and your exclusive remedy shall be, at SysKonnect's option, either

return of the price paid, or repair or replacement of the SOFTWARE or HARDWARE that does not meet SysKonnect's Limited Warranty and which is returned to SysKonnect with a copy of your receipt. This Limited Warranty is void if failure of the SOFTWARE or HARDWARE has resulted from accident, abuse, or misapplication. Any replacement SOFTWARE will be warranted by SysKonnect only for the remainder of the original warranty period or 30 days, whichever is longer. Any replacement HARDWARE will be warranted for the remainder of the original warranty period or 6 months, whichever is longer.

No other Warranties

SysKonnect disclaims all other warranties or liabilities with respect to the SOFTWARE, the HARDWARE, the accompanying Product Manual(s) and other written materials and any other accessories.

No Liability for Consequential Damages

SysKonnect does not warrant the software and Hardware for a specific application, nor does SysKonnect accept any consequential damages due to the use of the hardware or software. SysKonnect and its suppliers shall not be liable for any other damages whatsoever (including, without limitation, damages for loss of business profits, business interruption, loss of business information or data, property loss or other pecuniary loss), arising out of the use of or the inability to use this SysKonnect product, even if SysKonnect has been advised of the possibility of such damages. In any case, SysKonnect's entire liability shall be limited to the amount actually paid by you for the product.

Other

This agreement is governed by the procedural and substantive laws of the Federal Republic of Germany. UN Trade Laws shall not be applicable in any case. Place of litigation is Karlsruhe, FRG, as far as this can be agreed upon operatively in this way.

Should individual stipulations of this Agreement be or become invalid, this invalid stipulation shall be replaced by a stipulation, which is as close as possible to the invalid stipulation.

Should you have any questions concerning this Agreement, or if you desire to contact SysKonnect for any reason, please use the address information enclosed in this product or write to: SysKonnect GmbH, Siemensstrasse 23, D-76275 Ettlingen.

Deutschland, Schweiz, Österreich, Liechtenstein

Verehrte Kundin, verehrter Kunde

wenn Sie Ihr SysKonnect Produkt in DEUTSCHLAND, in der SCHWEIZ, in ÖSTERREICH oder in LIECHTENSTEIN erworben haben, gilt für Sie der folgende Lizenz- und Kaufvertrag. Dies ist ein rechtsgültiger Vertrag zwischen Ihnen, dem Endanwender, und der SysKonnect GmbH mit Sitz in Ettlingen/Bundesrepublik Deutschland.

SysKonnect Lizenz- und Kaufvertrag

Durch Öffnen der versiegelten Diskettenpackung und durch die Inbesitznahme der Hardware erklären Sie sich an die Bestimmungen der nachfolgenden Vereinbarung gebunden. Wenn Sie mit den Bestimmungen dieses Vertrages nicht einverstanden sind, geben Sie bitte die Diskettenpackung und die Hardware ungeöffnet und unbenutzt mit den Begleitgegenständen (einschließlich aller schriftlichen Unterlagen und dem sonstigen Zubehör) unverzüglich gegen volle Rückerstattung des Preises an die Stelle zurück, von der Sie sie bezogen haben.

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Die Software ist Eigentum von SysKonnect oder deren Lieferanten und ist durch Urheberrechtsgesetze, internationale Verträge und andere nationale Rechtsvorschriften gegen Kopieren geschützt.

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Sie dürfen weder die Handbücher des Produktes noch anderes schriftliches Begleitmaterial zur Software oder Hardware kopieren.

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Hardware

Mit der Inbesitznahme (Übergabe) dieser Hardware geht die Gefahr auf Sie, den Endanwender über. Eigenschaften wurden nicht zugesichert.

Beschränkte Garantie für Hardware und Software

SysKonnect garantiert für einen Zeitraum von 90 Tagen ab Empfangsdatum, dass die Software, soweit die technischen Voraussetzungen hierfür von Ihnen geschaffen wurden, im wesentlichen gemäß der begleitenden Dokumentation arbeitet. SysKonnect garantiert für Netzwerkadapterkarten und Infrastrukturkomponenten (z.B. Konzentratoren, Hubs, Switches) für einen Zeitraum von 2 Jahren und die sonstige Hardware für einen Zeitraum von 6 Monaten ab Empfangsdatum, dass die gelieferte Hardware bei normaler Benutzung und Wartung frei von Material- oder Verarbeitungsfehlern ist. Die Garantie ist bezüglich der Software auf 90 Tage, bezüglich der Netzwerkadapter und Infrastrukturkomponenten auf 2 Jahre und bezüglich der sonstigen Hardware auf 6 Monate beschränkt. Diese Garantie wird von SysKonnect als Hersteller des Produktes übernommen; etwaige gesetzliche Gewährleistungs- oder Haftungsansprüche gegen den Händler, von dem Sie Ihr Exemplar der Software oder Hardware bezogen haben, werden hierdurch weder ersetzt noch beschränkt.

Appendix B. Compliance Statements

This section contains regulatory notices applicable to the SysKonnect Cardbus Adapter.

FCC Compliance Information Statement – Class A

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Caution

Changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

Besuchen Sie uns unter:
www.syskonnect.de

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SysKonnect
The Server Connectivity Company